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ABSTRACT

The Illinois Learning Standards are required learning targets for Illinois students and schools. This guidebook includes the Illinois State Goals for Learning in seven learning areas (as updated from the 1985 Learning Goals), Learning Standards for each of the State Goals, and Learning Benchmarks that define progress at five developmental levels for each standard. The seven learning areas include English language arts, mathematics, science, social science, physical development and health, fine arts, and foreign languages (advisory standards). The guidebook also describes the historical and philosophical background of standards-based education and the standards-development process in Illinois. Appendices contain a glossary, a chart that compares the 1985 State Goals with the 1997 Learning Standards, and a list of participants in the standards-development process. (Contains 131 references.) (LMI)

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ED 410 667

Illinois Learning STANDARDS

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Illinois State Board of Education

First Edition **Adopted July 25, 1997**

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A SPECIAL MESSAGE ABOUT THE ILLINOIS LEARNING STANDARDS

The State Board of Education is pleased to present the final Illinois Learning Standards for elementary and secondary students.

These Standards were developed consistent with state law and are based on the thoughtful input of thousands of teachers, administrators, parents, employers, community leaders and representatives of higher education. Collectively, the statements in this document define what Illinois citizens believe all students should know and be able to do as a result of their public schooling.

Because student achievement will be assessed against these expectations, the Standards are required learning targets for Illinois students and schools.

The next challenge will be to ensure that all Illinois students are prepared to meet these expectations. That means, at a minimum, aligning the learning opportunities in each school (e.g., curriculum, teacher knowledge and skills) with these new Standards; identifying and responding to problems in meeting the learning targets; and communicating in new ways with students, parents and our communities.

This fall, the State Board will work closely with local educators, parents and the greater community to expand understanding about the Standards and begin the implementation process. To assist in that process, we will publish the Standards in sufficient quantities and formats so that every teacher and administrator can have a personal copy. We also plan to produce a special publication for parents.

Until these copies are available, we are providing each school and school district, as well as the regional offices, with this advance copy in reproducible form. Please feel free to duplicate it to meet your needs.

The document includes the State Goals for Learning in seven learning areas, as updated from the 1985 Learning Goals, Learning Standards for each of the State Goals, and Learning Benchmarks which define progress at five grade or developmental levels for each Standard. It also includes important introductory information and several appendices which we believe will be helpful to readers. Should you have any questions, please call 217/782-0541.

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INTRODUCTION

Acknowledgments

The Illinois State Board of Education gratefully acknowledges the contributions of the many educators, parents, employers, working professionals and citizens who contributed their time, expertise and effort to the Standards Project as members of the learning area writing teams and the Coordination Team. Their work in writing and critiquing the initial drafts released in July of 1996 represents a monumental effort in collaboration and thoughtful cooperation unprecedented in Illinois education.

In addition, the State Board appreciates the involvement of the thousands of Illinois citizens who responded to the initial drafts through surveys, public hearings and focus groups. This broad response provided extremely valuable information that allowed the revision teams and External Review Team to shape this first edition of the Illinois Learning Standards.

A HISTORICAL AND RESEARCH BASE

Illinois provided a model for the nation a dozen years ago when it adopted 34 State Goals for Learning in 1985. These were "broadly stated, relatively timeless expressions of what the State of Illinois wants and expects its students to know and be able to do as a consequence of their elementary and secondary schooling." They were the forerunners of the Illinois Learning Standards as we know them today.

In the intervening years, education research and state-by-state experience have brought a modern, systematic approach to setting standards. It is widely understood today that broad goals, while useful, are not sufficient to define student learning. Clear and specific standards communicate to students, teachers and parents exactly what is expected for students to learn. Specific standards make clear the types of tests and measures that accurately gauge student progress. Data from these tests inform educators and the public about student progress and where improvements are needed.

This document builds upon the State Goals for Learning established as a result of education reforms in 1985 and presents a more specific set of expectations for student learning. These expectations are stated as Goals for Learning, Standards and Benchmarks.

THE CASE FOR STATE LEARNING STANDARDS

A Changing World

Technological breakthroughs, an explosion of information and global economies are just a few of the conditions that have changed dramatically in the past decade. To be successful in a world characterized by change, students will need to learn the basics, but the basics of the 1990s and the new century to come go far beyond the basics of the 1960s, 1970s or 1980s. In addition to basic knowledge and skills, students will need to acquire new ways to learn that will serve them throughout their lives.

Scarce Resources

A clear set of standards that outlines expectations for student learning provides a focal point for deciding how to use the always-scarce resources that support education. Once standards are front and center and reliable information on student progress is made available, the efforts of educators and the funds available for teaching and learning can be targeted more efficiently and effectively to enhance learning.

Clear expectations help take the guesswork out of decisions about programs, materials, equipment and staff assignments. A standards-based education system benefits students, teachers, administrators, parents and taxpayers alike.

Sharing What Works

Shared standards have the potential to draw teachers, parents, schools and communities together across the state to share their best ideas and practices and help each other adapt them for the conditions affecting their students. From lesson plans to test items, from scheduling methods to technology plans, the standards can provide an organizer for shared efforts to improve education. To paraphrase a famous saying, all teaching and learning is local, but the capacity for innovative ideas is infinite within those localities. The standards can be the vehicle for sharing and supporting many ways to help students learn.

High Expectations as a Component of Fairness

Research shows that students learn best when they are clear about what they are expected to know and do. Part of being fair to students is letting them know the standards for achievement.

Another part of being fair is to maintain the same high standards for all students, wherever they may live. Unfairness occurs when students may meet or even excel at local standards, but then move to a new community or leave home to attend college, only to find that other students have been held to higher expectations. Setting state standards is part of meeting Illinois' obligation to provide fair and equitable educational opportunities for all students.

STANDARDS AS A BASIS FOR EDUCATION REFORM

Standards for All

Maintaining high expectations for all students is a component of fairness in education. "All students" include those who choose college and those who choose more technical career preparation directly from high school; those for whom English is a second language; those with learning disabilities and those who are gifted and talented; those who are returning to education for completion of a diploma, even as adults; and those from advantaged and disadvantaged socioeconomic backgrounds.

For most special needs students, their Individualized Educational Programs (IEPs) will be linked to the standards, with individualized approaches to the depth and timetables for achievement. For the most severely and profoundly handicapped, few of these standards may apply.

While the task of helping virtually all students achieve the standards may seem daunting, the alternative is not acceptable. Different expectations for different groups of students lead students to demand less of themselves—and unfortunately allow them to deliver on these lower expectations.

Measuring Progress

To know if students are meeting the standards, their progress must be measured over time. Most of this measuring will occur in the classroom where teachers see students on a daily basis. There, teachers can check progress in many ways—by observing, questioning, reviewing work assignments, testing or judging projects and performances.

Some of this measuring will occur on a larger scale through state assessments designed specifically to check students' performance against the standards across the state. And some measuring will occur through a variety of national and international tests taken by students' individual choice such as Advanced Placement (AP) exams or by voluntary participation of their schools in tests such as the National Assessment of Educational Progress (NAEP) or the Third International Mathematics and Science Study (TIMSS).

Each level of measurement in and of itself cannot provide a complete picture of student achievement. Taken together, however, a learning profile can emerge, allowing students, parents and educators to know how well students are doing and where improvements are needed. By extension, progress data can inform school boards, communities and education agencies about where to make changes and improvements in programs, resources and support.

The standards and learning benchmarks in this document provide a "road map" for local and state measures of progress.

Being Accountable

Being accountable for results requires that everyone involved understand what results are desired. The goals, standards and benchmarks form the basis for this shared understanding.

From students to teachers to parents, from school administrators to school boards to legislators to taxpayers, from employers to college admissions officers to the state education agency—all have some level of accountability for the results of education. It is one of the few public endeavors for which so many have so much responsibility.

The adoption of the Illinois Learning Standards provides an opportunity for greater accountability. The standards define the desired results, with further definition supplied through classroom and state tests and shared examples of student work that meets high expectations. All responsible parties will have to define their own roles in producing the results and determine how they will convey that they have met their responsibilities.

As examples, standards will drive revisions in school report cards, the establishment of an academic early warning/watch list and support programs for low-performing schools, and a performance-based annual report to the General Assembly by the Illinois State Board of Education.

It is important to note that adoption of the Illinois Learning Standards does not abrogate responsibility to meet the requirements of the Illinois School Code. All existing laws and rules remain in effect.

Improving the Education System

Standards alone do not improve the education system. However, they provide the focus, the foundation, upon which other reforms must be anchored. For example, teacher preparation and professional development will be strengthened as college courses and continuing education programs are organized toward providing teachers the knowledge and skills to enable their students to achieve the Illinois Learning Standards. In addition, technology planning, because technology is woven throughout the Illinois Learning Standards, can and must be built around creating new learning opportunities for students to meet and exceed the standards. The analysis of student achievement data in relation to the Illinois Learning Standards will drive the improvement of teaching and learning and the more productive use of education dollars.

Making Standards Work for Student Learning

Moving standards from the written pages of this document into action in schools will take time, hard work and a variety of resources.

Making the documents available in printed and electronic formats is only a first step. A variety of secondary information will be available over time from the State Board of Education, Regional Offices of Education, school districts, public media and other partners in this endeavor. These will include parent brochures, test data, a curriculum and instruction database and other materials. Look for additional information related to the Illinois Learning Standards on the ISBE Web page (http://www.isbe.state.il.us).

To make standards work, resources need to be more carefully targeted toward students' achievement of the standards. Recent trends in federal law have moved many requirements for education funds toward standards-driven reforms. Information on using these funds in local schools and programs is available on the ISBE Web page under Grants.

Similarly, state education funds are being targeted to the greatest extent possible toward the standards. To find which state funds apply to standards-driven education programs, again see the ISBE Web page under Grants.

HOW THE STANDARDS WERE DEVELOPED

The Development Process

The Illinois Standards Project began in 1995 with the establishment of seven writing teams, one for each learning area represented in the final framework. Team leaders were selected on the basis of state and national expertise and reputation. The writing teams used extensive resources including national and state standards from across the country as well as the 1985 State Goals for Learning, and examples of Illinois schools' own expectations for student learning. A Coordinating Team composed of a cross-section of Illinois constituencies guided the production of the drafts, which were released for public comment in July of 1996.

The public comment period extended to January of 1997. It yielded extensive suggestions for improving the draft standards . The University of Illinois at Springfield, under contract with the State Board of Education, created a database of survey information and produced a variety of data analyses. These provided the main source of data used by the seven refinement teams that began work in February of 1997. These teams included educators, business people, parents, workforce preparation specialists and technology specialists.

An External Advisory Team was convened in February of 1997 to analyze issues that were related to the establishment of state standards and had arisen from the public comment data. This team represented the broad constituencies of Illinois citizens and included both supporters and opponents of state standards. The team produced a report advising the State Board of various opinions on the issues for their consideration prior to adopting the standards. The report is available from the ISBE Information and Reception Center at 217/782-4321.

UNDERSTANDING THE STANDARDS FRAMEWORK

The Criteria for Standards

From the outset, the following set of criteria guided the writing of the goals, standards and benchmarks:

- The standards and benchmarks must be clear and meaningful to students, parents, educators, business representatives and the community at large.
- The standards and benchmarks should include an appropriate combination of knowledge and skills, not just facts alone or skills alone.
- The standards and benchmarks should build upon and go beyond the basics within each of the academic disciplines.
- The standards and benchmarks should be specific enough to convey what students should learn, but broad enough to allow for a variety of approaches to teaching, curriculum, course design and assessment.
- The standards and benchmarks should be specific enough to be used in assessing progress and improving students' learning.

Comments received from Illinois citizens during the public comment period helped revise the standards so that they could better meet all the criteria.

The Philosophy behind the Standards

In addition to the criteria used to write and edit the standards, the following statements summarize other important concepts that guided their development and adoption:

- The standards should reflect what Illinois citizens generally agree upon as constituting a core of student learning. However, the Illinois Learning Standards cannot possibly incorporate all the learning students will accomplish. If schools and their communities believe that important content has been omitted, it will be their responsibility to develop local standards to fill the void. It is the hope of the State Board of Education that the state standards will provide a framework to build strong and rich classroom experiences that incorporate all the important learning a community expects of its students.
- Workplace preparation is an important purpose of schooling. The standards incorporate knowledge and skills that will help enable students to be successful in the workplace of their choice, as well as in their roles as citizens, family members and participants in our society. The standards also create opportunities to integrate the academic and workplace knowledge and skills and learning opportunities to enhance students' ability to see connections between what is learned and practical applications of that learning.
- The Illinois Learning Standards must reflect the impact of technology on our world. For example, in English Language Arts, it is important to recognize the increasing roles of visual and media literacy in communication. Thus, the standards include verbs such as "compose" and "produce" in addition to "write," empowering students to communicate through visual images, animation and video in addition to text.
- Conditions affecting student learning continue to change. Thus, refinement and updating of the standards must be a continuous process. The State Board of Education is committed to the development of an orderly process for improvement of the Illinois Learning Standards, to include but not be limited to, an annual report to the Board on issues identified through the implementation process and a formal review at three-year intervals. Updates will be made in the same spirit in which these standards were developed, that is, with broad participation of Illinois citizens.
- Illinois students cannot be held accountable for achieving the standards if they do not have adequate and sufficient opportunities to acquire the identified knowledge and skills. The State Board and Regional Offices of Education need to work with local schools and communities to identify the nature and extent of such problems and develop solutions which will ensure that students have the necessary learning opportunities. That may require thinking about schooling in different ways and looking for new structures and approaches for educating students.

Navigating through the Framework

The standards framework is divided into seven learning areas:

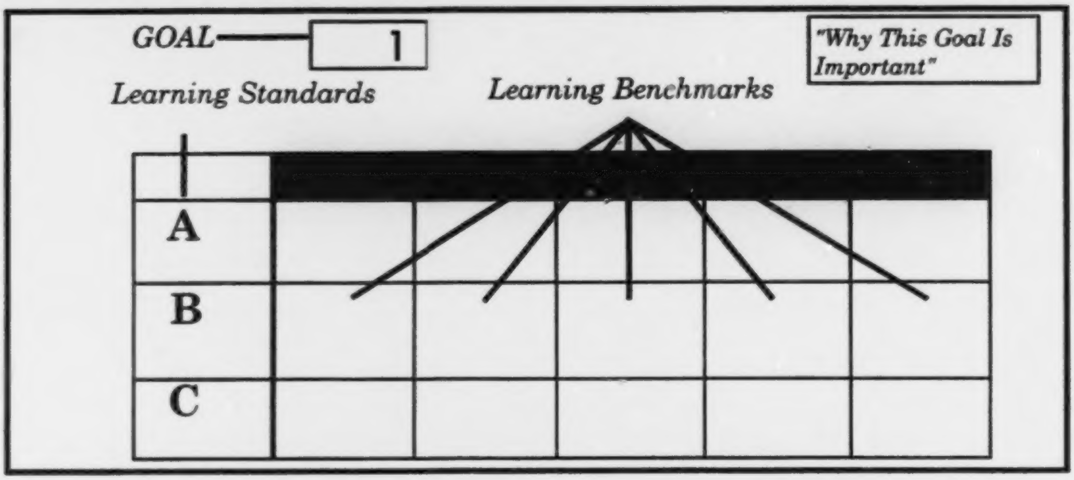
- English Language Arts
- Mathematics
- Science
- Social Science
- Physical Development and Health
- Fine Arts
- Foreign Languages (advisory standards)

Each learning area section contains the following information:

- An introduction to the learning area explaining the learning that is captured in the standards and background information.
- A section called "Applications of Learning," in which five cross-disciplinary abilities are discussed as they apply to the learning area:
  —Solving Problems
  —Communicating
  —Using Technology
  —Working on Teams
  —Making Connections
- Charts of Goals, Standards and Learning Benchmarks that define the essential knowledge and skills for the learning area.

  Goals are broad statements of knowledge and/or skills that organize the subject matter of the learning area. Each goal

The diagram below shows these components as they appear in the framework layout:



has an explanation of why it is important and how it relates to life beyond school.

Learning Standards are specific statements of knowledge and/or skills within a goal. Taken together, the standards clearly define the learning needed to reach that goal. They represent the results of schooling and thus may be considered exit standards.

Learning Benchmarks are progress indicators for gauging students' achievement of each exit standard. They form the basis for measuring student achievement over time. In general, benchmarks for the early grades represent basic skills. Later benchmarks build in complexity and rigor from one level to the next, culminating in deep understandings demonstrated through complex performances.

The grade-level clusters for learning benchmarks are early elementary school, late elementary school, middle/junior high school, early high school and late high school. Specific grade levels are not used to allow schools flexibility in how they structure their education programs. The focus is on results, not on how the results are achieved or on a fixed amount of time.

The goals, standards and benchmarks are numbered for easy reference.

Appendices

The following appendices have been added to help the reader gain a better understanding of terminology used in the goals, learning standards and benchmarks; to illustrate how the 1997 Illinois Learning Standards compare with the 1985 State Goals for Learning; to cite resources used to develop the 1997 Illinois Learning Standards; and to identify individuals who served on development and refinement teams to bring this work forward.

Appendix A -	Glossary of Terms
Appendix B -	Crosswalk - A comparison of the 1985 State Goals for Learning and the 1997 Illinois Learning Standards
Appendix C -	Bibliography
Appendix D -	List of Participants

WHAT LIES AHEAD

Using the Framework

The State Board of Education will use the Illinois Learning Standards for a variety of purposes including:

- as a guide to redesign the state assessment program;
- as a guide to assist schools and teachers with curriculum, instruction and assessments;
- as a foundation to establish professional teacher standards;
- as a guide to target the use of funds to better support teaching and learning;
- as a means to communicate the purpose and results of Illinois K-12 education to the public.

Local schools will use the standards framework for many similar purposes, such as

- a guide to organize and share curriculum, instructional methods and assessments across teachers, grade levels and schools;
- a means to gauge student progress through local assessments;
- a guide to focus school improvement plans;
- a means to communicate the purpose and results of schooling to the local community.

This list of uses will grow as standards-based reforms continue in Illinois.

Standards-Related Projects

Some specific projects are on the drawing board at the time of this printing. Stay tuned to the ISBE website (http://www.isbe.state.il.us) to see frequent updates on their progress or to get personally involved in their success.

- An on-line "marketplace" for educators and others to share their best ideas for helping students reach the standards.

This will eventually include lesson plans, instructional techniques, assessment prototypes, samples of exemplary student work, recommendations on teaching materials and available funding support.

- A "coordinated system of support" for programs and initiatives that affect student learning. The system will include Regional Offices of Education, professional and community organizations and a variety of individuals working together to coordinate services and resources to meet the needs of schools.
- Improved public reporting to show student progress toward meeting standards. This will include redesigned school report cards and a new format for the State Board's annual report to the General Assembly.

ENGLISH LANGUAGE ARTS

State Goals: 1-5

ENGLISH LANGUAGE ARTS

The *Illinois Learning Standards for English Language Arts* goals and standards were developed using the 1985 State Goals for Language Arts, various state and national standards drafts, and local education standards contributed by team members. Through the achievement of these goals and standards, students will gain proficiency in the language skills that are basic to all learning, critical to success in the workplace and essential to life as productive citizens.

English language arts includes reading, writing, speaking, listening and the study of literature. In addition, students must be able to study, retain and use information from many sources. Through the study of the English language arts, students should be able to read fluently, understanding a broad range of written materials. They must be able to communicate well and listen carefully and effectively. They should develop a command of the language and demonstrate their knowledge through speaking and writing for a variety of audiences and purposes. As students progress, a structured study of literature will allow them to recognize universal themes and to compare styles and ideas across authors and eras.

APPLICATIONS OF LEARNING

Through Applications of Learning, students demonstrate and deepen their understanding of basic knowledge and skills. These applied learning skills cross academic disciplines and reinforce the important learning of the disciplines. The ability to use these skills will greatly influence students' success in school, in the workplace and in the community.

SOLVING PROBLEMS

Recognize and investigate problems; formulate and propose solutions supported by reason and evidence.

Solving problems demands that students be able to read and listen, comprehend ideas, ask and answer questions, clearly convey their own ideas through written and oral means, and explain their reasoning. Comprehending reading materials and editing and revising writing are in themselves forms of complex problem solving. The ability to locate, acquire and organize information from various sources, print and electronic, is essential to solving problems involving research. In all fields—English language arts, mathematics, science, social studies, and others, the command of language is essential in stating and reasoning through problems and conveying results.

COMMUNICATING

Express and interpret information and ideas.

Communication is the essence of English language arts, and communication surrounds us today in many forms. Individuals and groups of people exchange ideas and information—oral and written—at lunch tables, through newspapers and magazines, and through radio, television and on-line computer services. From the simplest, shortest conversations to the most complex technical manuals, language is the basis of all human communication. A strong command of reading, writing, speaking and listening is vital for communicating in the home, school, workplace and beyond.

USING TECHNOLOGY

Use appropriate instruments, electronic equipment, computers and networks to access information, process ideas and communicate results.

Computers and telecommunications have become basic means for creating messages and relaying information. In offices and homes, people write using word processors. Audio and visual media are used for both creative and practical forms of communication. The use of on-line services is now commonplace among researchers, authors, farmers and auto mechanics. Skilled use of these technologies provides students with necessary opportunities to search and process information, be in touch with experts, prepare documents, and learn and communicate in new, more effective ways.

WORKING ON TEAMS

Learn and contribute productively as individuals and as members of groups.

In sports, the workplace, family and elsewhere, teamwork requires skill in the use of language. People must speak clearly and listen well as they share ideas, plans, instructions and evaluations. In researching and bringing outside information to a team, individuals must be able to search, select and understand a variety of sources. Documenting progress and reporting results demand the ability to organize information and convey it clearly. Those who can read, write, speak and listen well are valuable contributors in any setting where people are working together to achieve shared goals.

MAKING CONNECTIONS

Recognize and apply connections of important information and ideas within and among learning areas.

The parts of English language arts are closely interconnected. Reading and writing provide the means to receive and send written messages. Likewise, listening and speaking enable people to receive and send oral information. Speaking and writing are the creative components, while listening and reading are the receptive components of language through which people access knowledge and demonstrate its applications. Proficiency in these skills clearly supports learning in all academic areas.

STATE GOAL 1: Read with understanding and fluency.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Apply word analysis and vocabulary skills to comprehend selections.	**1.A.1a** Apply word analysis skills (e.g., phonics, word patterns) to recognize new words.	**1.A.2a** Read and comprehend unfamiliar words using root words, synonyms, antonyms, word origins and derivations.
	1.A.1b Comprehend unfamiliar words using context clues and prior knowledge; verify meanings with resource materials.	**1.A.2b** Clarify word meaning using context clues and a variety of resources including glossaries, dictionaries and thesauruses.
B. Apply reading strategies to improve understanding and fluency.	**1.B.1a** Establish purposes for reading, make predictions, connect important ideas, and link text to previous experiences and knowledge.	**1.B.2a** Establish purposes for reading; survey materials; ask questions; make predictions; connect, clarify and extend ideas.
	1.B.1b Identify genres (forms and purposes) of fiction, nonfiction, poetry and electronic literary forms.	**1.B.2b** Identify structure (e.g., description, compare/contrast, cause and effect, sequence) of nonfiction texts to improve comprehension.
	1.B.1c Continuously check and clarify for understanding (e.g., reread, read ahead, use visual and context clues, ask questions, retell, use meaningful substitutions).	**1.B.2c** Continuously check and clarify for understanding (e.g., *in addition to previous skills*, clarify terminology, seek additional information).
	1.B.1d Read age-appropriate material aloud with fluency and accuracy.	**1.B.2d** Read age-appropriate material aloud with fluency and accuracy.
C. Comprehend a broad range of reading materials.	**1.C.1a** Use information to form questions and verify predictions.	**1.C.2a** Use information to form and refine questions and predictions.
	1.C.1b Identify important themes and topics.	**1.C.2b** Make and support inferences and form interpretations about main themes and topics.
	1.C.1c Make comparisons across reading selections.	**1.C.2c** Compare and contrast the content and organization of selections.
	1.C.1d Summarize content of reading material using text organization (e.g., story, sequence).	**1.C.2d** Summarize and make generalizations from content and relate to purpose of material.
	1.C.1e Identify how authors and illustrators express their ideas in text and graphics (e.g., dialogue, conflict, shape, color, characters).	**1.C.2e** Explain how authors and illustrators use text and art to express their ideas (e.g., points of view, design hues, metaphor).
	1.C.1f Use information presented in simple tables, maps and charts to form an interpretation.	**1.C.2f** Connect information presented in tables, maps and charts to printed or electronic text.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Reading is essential. It is the process by which people gain information and ideas from books, newspapers, manuals, letters, contracts, advertisements and a host of other materials. Using strategies for constructing meaning before, during and after reading will help students connect what they read now with what they have learned in the past. Students who read well and widely build a strong foundation for learning in all areas of life.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
1.A.3a Apply knowledge of word origins and derivations to comprehend words used in specific content areas (e.g., scientific, political, literary, mathematical). **1.A.3b** Analyze the meaning of words and phrases in their context.	**1.A.4a** Expand knowledge of word origins and derivations and use idioms, analogies, metaphors and similes to extend vocabulary development. **1.A.4b** Compare the meaning of words and phrases and use analogies to explain the relationships among them.	**1.A.5a** Identify and analyze new terminology applying knowledge of word origins and derivations in a variety of practical settings. **1.A.5b** Analyze the meaning of abstract concepts and the effects of particular word and phrase choices.
1.B.3a Preview reading materials, make predictions and relate reading to information from other sources. **1.B.3b** Identify text structure and create a visual representation (e.g., graphic organizer, outline, drawing) to use while reading. **1.B.3c** Continuously check and clarify for understanding (e.g., *in addition to previous skills*, draw comparisons to other readings). **1.B.3d** Read age-appropriate material with fluency and accuracy.	**1.B.4a** Preview reading materials, clarify meaning, analyze overall themes and coherence, and relate reading with information from other sources. **1.B.4b** Analyze, interpret and compare a variety of texts for purpose, structure, content, detail and effect. **1.B.4c** Read age-appropriate material with fluency and accuracy.	**1.B.5a** Relate reading to prior knowledge and experience and make connections to related information. **1.B.5b** Analyze the defining characteristics and structures of a variety of complex literary genres and describe how genre affects the meaning and function of the texts. **1.B.5c** Evaluate a variety of compositions for purpose, structure, content and details for use in school or at work. **1.B.5d** Read age-appropriate material with fluency and accuracy.
1.C.3a Use information to form, explain and support questions and predictions. **1.C.3b** Interpret and analyze entire narrative text using story elements, point of view and theme. **1.C.3c** Compare, contrast and evaluate ideas and information from various sources and genres. **1.C.3d** Summarize and make generalizations from content and relate them to the purpose of the material. **1.C.3e** Compare how authors and illustrators use text and art across materials to express their ideas (e.g., foreshadowing, flashbacks, color, strong verbs, language that inspires). **1.C.3f** Interpret tables that display textual information and data in visual formats.	**1.C.4a** Use questions and predictions to guide reading. **1.C.4b** Explain and justify an interpretation of a text. **1.C.4c** Interpret, evaluate and apply information from a variety of sources to other situations (e.g., academic, vocational, technical, personal). **1.C.4d** Summarize and make generalizations from content and relate them to the purpose of the material. **1.C.4e** Analyze how authors and illustrators use text and art to express and emphasize their ideas (e.g., imagery, multiple points of view). **1.C.4f** Interpret tables, graphs and maps in conjunction with related text.	**1.C.5a** Use questions and predictions to guide reading across complex materials. **1.C.5b** Analyze and defend an interpretation of text. **1.C.5c** Critically evaluate information from multiple sources. **1.C.5d** Summarize and make generalizations from content and relate them to the purpose of the material. **1.C.5e** Evaluate how authors and illustrators use text and art across materials to express their ideas (e.g., complex dialogue, persuasive techniques). **1.C.5f** Use tables, graphs and maps to challenge arguments, defend conclusions and persuade others.

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STATE GOAL 2: Read and understand literature representative of various societies, eras and ideas.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Understand how literary elements and techniques are used to convey meaning.	**2.A.1a** Identify the literary elements of theme, setting, plot and character within literary works. **2.A.1b** Classify literary works as fiction or nonfiction. **2.A.1c** Describe differences between prose and poetry.	**2.A.2a** Identify literary elements and literary techniques (e.g., characterization, use of narration, use of dialogue) in a variety of literary works. **2.A.2b** Describe how literary elements (e.g., theme, character, setting, plot, tone, conflict) are used in literature to create meaning. **2.A.2c** Identify definitive features of literary forms (e.g., realistic fiction, historical fiction, fantasy, narrative, nonfiction, biography, plays, electronic literary forms).
B. Read and interpret a variety of literary works.	**2.B.1a** Respond to literary materials by connecting them to their own experience and communicate those responses to others. **2.B.1b** Identify common themes in literature from a variety of eras. **2.B.1c** Relate character, setting and plot to real-life situations.	**2.B.2a** Respond to literary material by making inferences, drawing conclusions and comparing it to their own experience, prior knowledge and other texts. **2.B.2b** Identify and explain themes that have been explored in literature from different societies and eras. **2.B.2c** Relate literary works and their characters, settings and plots to current and historical events, people and perspectives.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Literature transmits ideas, reflects societies and eras and expresses the human imagination. It brings understanding, enrichment and joy. Appreciating literature and recognizing its many forms enable students to learn and respond to ideas, issues, perspectives and actions of others. Literature study includes understanding the structure and intent of a short poem or a long, complex book. By exploring the techniques that authors use to convey messages and evoke responses, students connect literature to their own lives and daily experiences.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
2.A.3a Identify and analyze a variety of literary techniques (e.g., figurative language, allusion, dialogue, description, word choice, dialect) within classical and contemporary works representing a variety of genres. **2.A.3b** Describe how the development of theme, character, plot and setting contribute to the overall impact of a piece of literature. **2.A.3c** Identify characteristics and authors of various literary forms (e.g., short stories, novels, drama, fables, biographies, documentaries, poetry, science fiction). **2.A.3d** Identify ways that an author uses language structure, word choice and style to convey the author's viewpoint.	**2.A.4a** Analyze and evaluate the effective use of literary techniques (e.g., figurative language, allusion, dialogue, description, symbolism, word choice, dialect) in classic and contemporary literature representing a variety of forms and media. **2.A.4b** Explain relationships between and among literary elements including character, plot, setting, theme, conflict and resolution and their influence on the effectiveness of the literary piece. **2.A.4c** Describe relationships between the author's style, literary form (e.g., short stories, novels, drama, fables, biographies, documentaries, poetry, essays) and intended effect on the reader. **2.A.4d** Describe the influence of the author's language structure and word choice to convey the author's viewpoint.	**2.A.5a** Compare and evaluate oral, written or viewed works from various eras and traditions and analyze complex literary devices (e.g., structures, images, forms, foreshadowing, flashbacks, stream of consciousness). **2.A.5b** Evaluate relationships between and among character, plot, setting, theme, conflict and resolution and their influence on the effectiveness of a literary piece. **2.A.5c** Analyze the development of form (e.g., short stories, essays, speeches, poetry, plays, novels) and purpose in American literature and literature of other countries. **2.A.5d** Evaluate the influence of historical context on form, style and point of view for a variety of literary works.
2.B.3a Respond to literary material from personal, creative and critical points of view. **2.B.3b** Compare and contrast common literary themes across various societies and eras. **2.B.3c** Analyze how characters in literature deal with conflict, solve problems and relate to real-life situations.	**2.B.4a** Critique ideas and impressions generated by oral, visual, written and electronic materials. **2.B.4b** Analyze form, content, purpose and major themes of American literature and literature of other countries in their historical perspectives. **2.B.4c** Discuss and evaluate motive, resulting behavior and consequences demonstrated in literature.	**2.B.5a** Analyze and express an interpretation of a literary work. **2.B.5b** Apply knowledge gained from literature as a means of understanding contemporary and historical economic, social and political issues and perspectives.

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STATE GOAL 3: Write to communicate for a variety of purposes.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Use correct grammar, spelling, punctuation, capitalization and structure.	**3.A.1** Construct complete sentences which demonstrate subject/verb agreement; appropriate capitalization and punctuation; correct spelling of appropriate, high-frequency words; and appropriate use of the eight parts of speech.	**3.A.2** Write paragraphs that include a variety of sentence types; appropriate use of the eight parts of speech; and accurate spelling, capitalization and punctuation.
B. Compose well-organized and coherent writing for specific purposes and audiences.	**3.B.1a** Use prewriting strategies to generate and organize ideas (e.g., focus on one topic; organize writing to include a beginning, middle and end; use descriptive words when writing about people, places, things, events). **3.B.1b** Demonstrate focus, organization, elaboration and integration in written compositions (e.g., short stories, letters, essays, reports).	**3.B.2a** Generate and organize ideas using a variety of planning strategies (e.g., mapping, outlining, drafting). **3.B.2b** Establish central idea, organization, elaboration and unity in relation to purpose and audience. **3.B.2c** Expand ideas by using modifiers, subordination and standard paragraph organization. **3.B.2d** Edit documents for clarity, subjectivity, pronoun-antecedent agreement, adverb and adjective agreement and verb tense; proofread for spelling, capitalization and punctuation; and ensure that documents are formatted in final form for submission and/or publication.
C. Communicate ideas in writing to accomplish a variety of purposes.	**3.C.1a** Write for a variety of purposes including description, information, explanation, persuasion and narration. **3.C.1b** Create media compositions or productions which convey meaning visually for a variety of purposes.	**3.C.2a** Write for a variety of purposes and for specified audiences in a variety of forms including narrative (e.g., fiction, autobiography), expository (e.g., reports, essays) and persuasive writings (e.g., editorials, advertisements). **3.C.2b** Produce and format compositions for specified audiences using available technology.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

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WHY THIS GOAL IS IMPORTANT:

The ability to write clearly is essential to any person's effective communications. Students with high-level writing skills can produce documents that show planning and organization and effectively convey the intended message and meaning. Clear writing is critical to employment and production in today's world. Individuals must be capable of writing for a variety of audiences in differing styles, including standard rhetoric themes, business letters and reports, financial proposals and technical and professional communications. Students should be able to use word processors and computers to enhance their writing proficiency and improve their career opportunities.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
3.A.3 Write compositions that contain complete sentences and effective paragraphs using English conventions.	**3.A.4** Use standard English to edit documents for clarity, subject/verb agreement, adverb and adjective agreement and verb tense; proofread for spelling, capitalization and punctuation; and ensure that documents are formatted in final form for submission and/or publication.	**3.A.5** Produce grammatically correct documents using standard manuscript specifications for a variety of purposes and audiences.
3.B.3a Produce documents that convey a clear understanding and interpretation of ideas and information and display focus, organization, elaboration and coherence. **3.B.3b** Edit and revise for word choice, organization, consistent point of view and transitions among paragraphs using contemporary technology and formats suitable for submission and/or publication.	**3.B.4a** Produce documents that exhibit a range of writing techniques appropriate to purpose and audience, with clarity of focus, logic of organization, appropriate elaboration and support and overall coherence. **3.B.4b** Produce, edit, revise and format work for submission and/or publication (e.g., manuscript form, appropriate citation of sources) using contemporary technology. **3.B.4c** Evaluate written work for its effectiveness and make recommendations for its improvement.	**3.B.5** Using contemporary technology, produce documents of publication quality for specific purposes and audiences; exhibit clarity of focus, logic of organization, appropriate elaboration and support and overall coherence.
3.C.3a Compose narrative, informative, and persuasive writings (e.g., *in addition to previous writings*, literature reviews, instructions, news articles, correspondence) for a specified audience. **3.C.3b** Using available technology, produce compositions and multimedia works for specified audiences.	**3.C.4a** Write for real or potentially real situations in academic, professional and civic contexts (e.g., college applications, job applications, business letters, petitions). **3.C.4b** Using available technology, produce compositions and multimedia works for specified audiences.	**3.C.5a** Communicate information and ideas in narrative, informative and persuasive writing with clarity and effectiveness in a variety of written forms using appropriate traditional and/or electronic formats; adapt content, vocabulary, voice and tone to the audience, purpose and situation. **3.C.5b** Write for real or potentially real situations in academic, professional and civic contexts (e.g., applications, job applications, business letters, resume, petitions).

STATE GOAL 4: Listen and speak effectively in a variety of situations.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Listen effectively in formal and informal situations.	**4.A.1a** Listen attentively by facing the speaker, making eye contact and paraphrasing what is said. **4.A.1b** Ask questions and respond to questions from the teacher and from group members to improve comprehension. **4.A.1c** Follow oral instructions accurately. **4.A.1d** Use visually oriented and auditorily based media.	**4.A.2a** Demonstrate understanding of the listening process (e.g., sender, receiver, message) by summarizing and paraphrasing spoken messages orally and in writing in formal and informal situations. **4.A.2b** Ask and respond to questions related to oral presentations and messages in small and large group settings. **4.A.2c** Restate and carry out a variety of oral instructions.
B. Speak effectively using language appropriate to the situation and audience.	**4.B.1a** Present brief oral reports, using language and vocabulary appropriate to the message and audience (e.g., show and tell). **4.B.1b** Participate in discussions around a common topic.	**4.B.2a** Present oral reports to an audience using correct language and nonverbal expressions for the intended purpose and message within a suggested organizational format. **4.B.2b** Use speaking skills and procedures to participate in group discussions. **4.B.2c** Identify methods to manage or overcome communication anxiety and apprehension (e.g., topic outlines, repetitive practice). **4.B.2d** Identify main verbal and nonverbal communication elements and strategies to maintain communications and to resolve conflict.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Of all the language arts, listening and speaking are those most often used on a daily basis at home, school and work or in the community. Skill in speaking is universally recognized as a primary indicator of a person's knowledge, skill and credibility. In person, by phone or through video, good listening and speaking skills are essential to sending, receiving and understanding messages. To understand messages spoken by others, students must be able to listen carefully, using specific techniques to clarify what they have heard. For speaking properly and making messages understood, grammar, sentence structure, tone, expression and emphasis must be part of students' repertoires.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
4.A.3a Demonstrate ways (e.g., ask probing questions, provide feedback to a speaker, summarize and paraphrase complex spoken messages) that listening attentively can improve comprehension. **4.A.3b** Compare a speaker's verbal and nonverbal messages. **4.A.3c** Restate and carry out multistep oral instructions. **4.A.3d** Demonstrate the ability to identify and manage barriers to listening (e.g., noise, speaker credibility, environmental distractions).	**4.A.4a** Apply listening skills as individuals and members of a group in a variety of settings (e.g., lectures, discussions, conversations, team projects, presentations, interviews). **4.A.4b** Apply listening skills in practical settings (e.g., classroom note taking, interpersonal conflict situations, giving and receiving directions, evaluating persuasive messages). **4.A.4c** Follow complex oral instructions. **4.A.4d** Demonstrate understanding of the relationship of verbal and nonverbal messages within a context (e.g., contradictory, supportive, repetitive, substitutive).	**4.A.5a** Use criteria to evaluate a variety of speakers' verbal and nonverbal messages. **4.A.5b** Use techniques for analysis, synthesis, and evaluation of oral messages.
4.B.3a Deliver planned oral presentations, using language and vocabulary appropriate to the purpose, message and audience; provide details and supporting information that clarify main ideas; and use visual aids and contemporary technology as support. **4.B.3b** Design and produce reports and multimedia compositions that represent group projects. **4.B.3c** Develop strategies to manage or overcome communication anxiety and apprehension (e.g., sentence outlining, note cards). **4.B.3d** Use verbal and nonverbal communication strategies to maintain communications and to resolve conflict.	**4.B.4a** Deliver planned informative and persuasive oral presentations using visual aids and contemporary technology as individuals and members of a group; demonstrate organization, clarity, vocabulary, credible and accurate supporting evidence. **4.B.4b** Use group discussion skills to assume leadership and participant roles within an assigned project or to reach a group goal. **4.B.4c** Use strategies to manage or overcome communication anxiety and apprehension (e.g., developed outlines, notecards, practice). **4.B.4d** Use verbal and nonverbal strategies to maintain communication and to resolve individual and group conflict.	**4.B.5a** Deliver planned and impromptu oral presentations, as individuals and members of a group, conveying results of research, projects or literature studies to a variety of audiences (e.g., peers, community, business/industry, local organizations) using appropriate visual aids and available technology. **4.B.5b** Use speaking skills to participate in and lead group discussions; analyze the effectiveness of the spoken interactions based upon the ability of the group to achieve its goals. **4.B.5c** Implement learned strategies to self-monitor communication anxiety and apprehension (e.g., relaxation and transference techniques, scripting, extemporaneous outlining, repetitive practice). **4.B.5d** Use verbal and nonverbal strategies to maintain communication and to resolve individual, group and workplace conflict (e.g., mediation skills, formal and informal bargaining skills).

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STATE GOAL 5: Use the language arts to acquire, assess and communicate information.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Locate, organize, and use information from various sources to answer questions, solve problems and communicate ideas.	**5.A.1a** Identify questions and gather information. **5.A.1b** Locate information using a variety of resources.	**5.A.2a** Formulate questions and construct a basic research plan. **5.A.2b** Organize and integrate information from a variety of sources (e.g., books, interviews, library reference materials, websites, CD/ROMs).
B. Analyze and evaluate information acquired from various sources.	**5.B.1a** Select and organize information from various sources for a specific purpose. **5.B.1b** Cite sources used.	**5.B.2a** Determine the accuracy, currency and reliability of materials from various sources. **5.B.2b** Cite sources used.
C. Apply acquired information, concepts and ideas to communicate in a variety of formats.	**5.C.1a** Write letters, reports and stories based on acquired information. **5.C.1b** Use print, nonprint, human and technological resources to acquire and use information.	**5.C.2a** Create a variety of print and nonprint documents to communicate acquired information for specific audiences and purposes. **5.C.2b** Prepare and deliver oral presentations based on inquiry or research.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

To be successful in school and in the world of work, students must be able to use a wide variety of information resources (written, visual and electronic). They must also know how to frame questions for inquiry, identify and organize relevant information and communicate it effectively in a variety of formats. These skills are critical in school across all learning areas and are key to successful career and lifelong learning experiences.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
5.A.3a Identify appropriate resources to solve problems or answer questions through research. **5.A.3b** Design a project related to contemporary issues (e.g., real-world math, career development, community service) using multiple sources.	**5.A.4a** Demonstrate a knowledge of strategies needed to prepare a credible research report (e.g., notes, planning sheets). **5.A.4b** Design and present a project (e.g., research report, scientific study, career/higher education opportunities) using various formats from multiple sources.	**5.A.5a** Develop a research plan using multiple forms of data. **5.A.5b** Research, design and present a project to an academic, business or school community audience on a topic selected from among contemporary issues.
5.B.3a Choose and analyze information sources for individual, academic and functional purposes. **5.B.3b** Identify, evaluate and cite primary sources.	**5.B.4a** Choose and evaluate primary and secondary sources (print and nonprint) for a variety of purposes. **5.B.4b** Use multiple sources and multiple formats; cite according to standard style manuals.	**5.B.5a** Evaluate the usefulness of information, synthesize information to support a thesis, and present information in a logical manner in oral and written forms. **5.B.5b** Credit primary and secondary sources in a form appropriate for presentation or publication for a particular audience.
5.C.3a Plan, compose, edit and revise documents that synthesize new meaning gleaned from multiple sources. **5.C.3b** Prepare and orally present original work (e.g., poems, monologues, reports, plays, stories) supported by research. **5.C.3c** Take notes, conduct interviews, organize and report information in oral, visual and electronic formats.	**5.C.4a** Plan, compose, edit and revise information (e.g., brochures, formal reports, proposals, research summaries, analyses, editorials, articles, overheads, multimedia displays) for presentation to an audience. **5.C.4b** Produce oral presentations and written documents using supportive research and incorporating contemporary technology. **5.C.4c** Prepare for and participate in formal debates.	**5.C.5a** Using contemporary technology, create a research presentation or prepare a documentary related to academic, technical or occupational topics and present the findings in oral or multimedia formats. **5.C.5b** Support and defend a thesis statement using various references including media and electronic resources.

MATHEMATICS

State Goals: 6-10

MATHEMATICS

The *Illinois Learning Standards for Mathematics* were developed by Illinois teachers for Illinois schools. These goals, standards and benchmarks are an outgrowth of the 1985 Illinois State Goals for Learning influenced by the latest thinking in school mathematics. This includes the National Council of Teachers of Mathematics; *Curriculum and Evaluation Standards for School Mathematics*; ideas underlying recent local and national curriculum projects; results of state, national, and international assessment findings; and the work and experiences of Illinois school districts and teachers.

Mathematics is a language we use to identify, describe and investigate the patterns and challenges of everyday living. It helps us to understand the events that have occurred and to predict and prepare for events to come so that we can more fully understand our world and more successfully live in it.

Mathematics encompasses arithmetic, measurement, algebra, geometry, trigonometry, statistics, probability and other fields. It deals with numbers, quantities, shapes and data, as well as numerical relationships and operations. Confronting, understanding and solving problems is at the heart of mathematics. Mathematics is much more than a collection of concepts and skills; it is a way of approaching new challenges through investigating, reasoning, visualizing and problem solving with the goal of communicating the relationships observed and problems solved to others.

All students in Illinois schools need to have the opportunity to engage in learning experiences that foster mastery of these goals and standards. Knowledge of mathematics and the ability to apply math skills to solve problems can be an empowering force for all students—both while in school and later in their lives. Students reaching these goals and standards will have an understanding of how numbers are used and represented. They will be able to use basic operations (addition, subtraction, mulitiplication, division) to both solve everyday problems and confront more involved calculations in algebraic and statistical settings. They will be able to read, write, visualize and talk about ways in which mathematical problems can be solved in both theoretical and practical situations. They will be able to communicate relationships in geometric and statistical settings through drawings and graphs. These skills will provide all Illinois students with a solid foundation for success in the workplace, a basis for continued learning about mathematics, and a foundation for confronting problem situations arising throughout their lives.

APPLICATIONS OF LEARNING

Through Applications of Learning, students demonstrate and deepen their understanding of basic knowledge and skills. These applied learning skills cross academic disciplines and reinforce the important learning of the disciplines. The ability to use these skills will greatly influence students' success in school, in the workplace and in the community.

SOLVING PROBLEMS

Recognize and investigate problems; formulate and propose solutions supported by reason and evidence.

The solving of problems is at the heart of "doing mathematics." When people are called on to apply their knowledge of numbers, symbols, operations, measurement, algebraic approaches, geometric concepts and relationships, and data analysis, mathematics' power emerges. Sometimes problems appear well structured, almost like textbook exercises, and simply require the application of an algorithm or the interpretation of a relationship. Other times, particularly in occupational settings, the problems are non-routine and require some imagination and careful reasoning to solve. Students must have experience with a wide variety of problem-solving methods and opportunities for solving a wide range of problems. The ability to link the problem-solving methods learned in mathematics with a knowledge of objects and concepts from other academic areas is a fundamental survival skill for life.

COMMUNICATING

Express and interpret information and ideas.

Everyone must be able to read and write technical material to be competitive in the modern workplace. Mathematics provides students with opportunities to grow in the ability to read, write and talk about situations involving numbers, variables, equations, figures and graphs. The ability to shift between verbal, graphical, numerical and symbolic modes of representing a problem helps people formulate, understand, solve and communicate technical information. Students must have opportunities in mathematics classes to confront problems requiring them to translate between representations, both within mathematics and between mathematics and other areas; to communicate findings both orally and in writing; and to develop displays illustrating the relationships they have observed or constructed.

USING TECHNOLOGY

Use appropriate instruments, electronic equipment, computers and networks to access information, process ideas and communicate results.

Technology provides a means to carry out operations with speed and accuracy; to display, store and retrieve information and results; and to explore and extend knowledge. The technology of paper and pencil is appropriate in many mathematical situations. In many other situations, calculators or computers are required to find answers or create images. Specialized technology may be required to make measurements, determine results or create images. Students must be able to use the technology of calculators and computers including spreadsheets, dynamical geometry systems, computer algebra systems, and data analysis and graphing software to represent information, form conjectures, solve problems and communicate results.

WORKING ON TEAMS

Learn and contribute productively as individuals and as members of groups.

The use of mathematics outside the classroom requires sharing expertise as well as applying individual knowledge and skills. Working in teams allows students to share ideas, to develop and coordinate group approaches to problems, and to share and learn from each other in communicating findings. Students must have opportunities to develop the skills and processes provided by team problem-solving experiences to be prepared to function as members of society and productive participants in the workforce.

MAKING CONNECTIONS

Recognize and apply connections of important information and ideas within and among learning areas.

Mathematics is used extensively in business; the life, natural and physical sciences; the social sciences; and in the fine arts. Medicine, architecture, engineering, the industrial arts and a multitude of occupations are also dependent on mathematics. Mathematics offers necessary tools and ways of thinking to unite the concepts, relationships and procedures common to these areas. Mathematics provides a language for expressing ideas across disciplines, while, at the same time, providing connections linking number and operation, measurement, geometry, data and algebra within mathematics itself. Students must have experiences which require them to make such connections among mathematics and other disciplines. They will then see the power and utility that mathematics brings to expressing, understanding and solving problems in diverse settings beyond the classroom.

STATE GOAL 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	**6.A.1a** Identify whole numbers and compare them using the symbols <, >, or = and the words "less than", "greater than", or "equal to", applying counting, grouping and place value concepts. **6.A.1b** Identify and model fractions using concrete materials and pictorial representations.	**6.A.2** Compare and order whole numbers, fractions and decimals using concrete materials, drawings and mathematical symbols.
B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	**6.B.1** Solve one- and two-step problems with whole numbers using addition, subtraction, multiplication and division.	**6.B.2** Solve one- and two-step problems involving whole numbers, fractions and decimals using addition, subtraction, multiplication and division.
C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.	**6.C.1a** Select and perform computational procedures to solve problems with whole numbers. **6.C.1b** Show evidence that whole number computational results are correct and/or that estimates are reasonable.	**6.C.2a** Select and perform computational procedures to solve problems with whole numbers, fractions and decimals. **6.C.2b** Show evidence that computational results using whole numbers, fractions and decimals are correct and/or that estimates are reasonable.
D. Solve problems using comparison of quantities, ratios, proportions and percents.	**6.D.1** Compare the numbers of objects in groups.	**6.D.2** Describe the relationship between two sets of data using ratios and appropriate notations (e.g., a/b, a to b, a:b).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Numbers and operations on numbers play fundamental roles in helping us make sense of the world around us. Operations such as addition, subtraction, multiplication and division, as well as the ability to find powers and roots, extend the notion of numbers to create tools to model situations and solve problems in our everyday lives. Discussing and solving problems related to budgets, comparing prices on merchandise, understanding the nature of interest charges, measuring fuel consumption and calculating the trajectory for space travel would all be impossible without a sense of numbers and numerical operations. All people must develop this sense of numbers and operations and be able to use it to solve problems using mental computation, paper-and-pencil algorithms, calculators and computers.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
6.A.3 Represent fractions, decimals, percentages, exponents and scientific notation in equivalent forms.	**6.A.4** Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots.	**6.A.5** Perform addition, subtraction and multiplication of complex numbers and graph the results in the complex plane.
6.B.3a Solve practical computation problems involving whole numbers, integers and rational numbers. **6.B.3b** Apply primes, factors, divisors, multiples, common factors and common multiples in solving problems. **6.B.3c** Identify and apply properties of real numbers including pi, squares, and square roots.	**6.B.4** Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook.	**6.B.5** Identify, represent and apply numbers expressed in exponential, logarithmic and scientific notation using contemporary technology.
6.C.3a Select computational procedures and solve problems with whole numbers, fractions, decimals, percents and proportions. **6.C.3b** Show evidence that computational results using whole numbers, fractions, decimals, percents and proportions are correct and/or that estimates are reasonable.	**6.C.4** Determine whether exact values or approximations are appropriate (e.g., bid a job, determine gas mileage for a trip).	**6.C.5** Determine the level of accuracy needed for computations involving measurement and irrational numbers.
6.D.3 Apply ratios and proportions to solve practical problems.	**6.D.4** Solve problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents.	**6.D.5** Solve problems involving loans, mortgages and other practical applications involving geometric patterns of growth.

STATE GOAL 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Measure and compare quantities using appropriate units, instruments and methods.	**7.A.1a** Measure length, volume and weight/mass using rulers, scales and other appropriate measuring instruments in the customary and metric systems. **7.A.1b** Measure units of time using appropriate instruments (e.g., calendars, clocks, watches—both analog and digital). **7.A.1c** Identify and describe the relative values and relationships among coins and solve addition and subtraction problems using currency. **7.A.1d** Read temperatures to the nearest degree from Celsius and Fahrenheit thermometers.	**7.A.2a** Calculate, compare and convert length, perimeter, area, weight/mass and volume within the customary and metric systems. **7.A.2b** Solve addition, subtraction, multiplication and division problems using currency.
B. Estimate measurements and determine acceptable levels of accuracy.	**7.B.1a** Given a problem, describe possible methods for estimating a given measure. **7.B.1b** Compare estimated measures to actual measures taken with appropriate measuring instruments.	**7.B.2a** Determine and communicate possible methods for estimating a given measure, selecting proper units in both customary and metric systems. **7.B.2b** Estimate conversions between measures within the customary and metric systems.
C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.	**7.C.1** Determine perimeter and area using concrete materials (e.g., geoboards, square tiles, grids, measurement instruments).	**7.C.2a** Describe relationships in a simple scale drawing. **7.C.2b** Construct or draw figures with given perimeters and areas.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Measurement provides a way to answer questions about "how many," "how much" and "how far." It is an indispensable component of business, manufacturing, art, medicine and many other aspects of daily life. We describe the sizes, capacities and values of many things, from the large distances involved in space travel, to the very small quantities in computer design and microbiology, to the varying values of currencies in international monetary exchange. All people must be able to choose an appropriate level of accuracy for a measurement; to select what measuring instruments to use and to correctly determine the measures of objects, space and time. These activities require people to be able to use standard instruments including rulers, volume and capacity measures, timers and emerging measurement technologies found in the home and workplace.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
7.A.3a Measure length, capacity, weight/mass and angles using sophisticated instruments (e.g., compass, protractor, trundle wheel). **7.A.3b** Apply the concepts and attributes of length, capacity, weight/mass, perimeter, area, volume, time, temperature and angle measures in practical situations.	**7.A.4a** Apply units and scales to describe and compare numerical data and physical objects. **7.A.4b** Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values.	**7.A.5** Apply nonlinear scales (e.g., Richter, decibel, pH) to solve practical problems.
7.B.3 Select and apply instruments including rulers and protractors and units of measure to the degree of accuracy required.	**7.B.4** Estimate and measure the magnitude and directions of physical quantities (e.g., velocity, force, slope) using rulers, protractors and other scientific instruments including timers, calculators and computers.	**7.B.5** Estimate perimeter, area, volume, and capacity of irregular shapes, regions and solids and explain the reasoning supporting the estimate.
7.C.3a Construct a simple scale drawing for a given situation. **7.C.3b** Use concrete and graphic models and appropriate formulas to find perimeters, areas, surface areas and volumes of two- and three-dimensional regions.	**7.C.4a** Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a tower by its shadow). **7.C.4b** Interpret scale drawings and models using maps and blueprints. **7.C.4c** Convert within and between measurement systems and monetary systems using technology where appropriate.	**7.C.5a** Use dimensional analysis to determine units and check answers in applied measurement problems. **7.C.5b** Determine how changes in one measure may affect other measures (e.g., what happens to the volume and surface area of a cube when the side of the cube is halved).

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STATE GOAL 8: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Describe numerical relationships using variables and patterns.	**8.A.1a** Identify, describe and extend simple geometric and numeric patterns. **8.A.1b** Solve simple number sentences (e.g., 2 + ☐ = 5).	**8.A.2a** Identify, describe, extend and create geometric and numeric patterns. **8.A.2b** Construct and solve number sentences using a variable to represent an unknown quantity.
B. Interpret and describe numerical relationships using tables, graphs and symbols.	**8.B.1** Solve problems involving pattern identification and completion of patterns.	**8.B.2** Analyze a geometric pattern and express the results numerically.
C. Solve problems using systems of numbers and their properties.	**8.C.1** Describe the basic arithmetic operations (addition, subtraction, multiplication, division) orally, in writing and using concrete materials and drawings.	**8.C.2** Explain operations and number properties including commutative, associative, distributive, transitive, zero, equality and order of operations.
D. Use algebraic concepts and procedures to represent and solve problems.	**8.D.1** Find the unknown numbers in whole-number addition, subtraction, multiplication and division situations.	**8.D.2** Solve linear equations involving whole numbers.

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Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Algebra unites patterns and quantities in patterns with the means of describing change through the use of variables and functions. Its concepts and analytical methods allow people to consider general solutions to problems with common characteristics and develop related formulas. Algebra provides verbal, symbolic and graphical formats for discussing and representing settings as diverse as the pricing patterns of merchandise in a store, the behavior of a car as it accelerates or slows down, the changes in two chemicals as they react with one another, or the type of variation existing in a comparison of two factors in the economy. All people must be able to use algebraic methods to construct and examine tables of values; to interpret the relationships expressed by patterns in these tables; to relate change and variation in graphs and formulas; to reason about changes in quantities and the relationships involved in changes; and to find solutions to everyday problems using algebra's symbolic manipulation and formulas.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
8.A.3a Apply the basic properties of commutative, associative, distributive, transitive, inverse, identity, zero, equality and order of operations to solve problems. **8.A.3b** Solve problems using linear expressions, equations and inequalities.	**8.A.4a** Use algebraic methods to convert repeating decimals to fractions. **8.A.4b** Represent mathematical patterns and describe their properties using variables and mathematical symbols.	**8.A.5** Solve mathematical problems involving recursive patterns and use models that employ such relationships.
8.B.3 Use graphing technology and algebraic methods to analyze and predict linear relationships and make generalizations from linear patterns.	**8.B.4a** Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. **8.B.4b** Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships.	**8.B.5** Use functions including exponential, polynomial, rational, parametric, logarithmic, and trigonometric to describe numerical relationships.
8.C.3 Apply the properties of numbers and operations including inverses in algebraic settings derived from economics, business and the sciences.	**8.C.4a** Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. **8.C.4b** Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations.	**8.C.5** Use polynomial, exponential, logarithmic and trigonometric functions to model situations.
8.D.3a Solve problems using numeric, graphic or symbolic representations of variables, expressions, equations and inequalities. **8.D.3b** Propose and solve problems using proportions, formulas and linear functions. **8.D.3c** Apply properties of powers, perfect squares and square roots.	**8.D.4** Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers.	**8.D.5** Formulate and solve nonlinear equations and systems including problems involving inverse variation and exponential and logarithmic growth and decay.

STATE GOAL 9: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Demonstrate and apply geometric concepts involving points, lines, planes and space.	**9.A.1a** Identify related two- and three-dimensional shapes including circle-sphere, square-cube, triangle-pyramid, rectangle-rectangular prism and their basic properties. **9.A.1b** Draw two-dimensional shapes.	**9.A.2a** Build physical models of two- and three-dimensional shapes. **9.A.2b** Identify and describe how geometric figures are used in practical settings (e.g., construction, art, advertising). **9.A.2c** Describe and draw representations of geometric relationships, patterns, symmetries, and designs in two- and three-dimensions with and without technology.
B. Identify, describe, classify and compare relationships using points, lines, planes and solids.	**9.B.1a** Identify and describe characteristics, similarities and differences of geometric shapes. **9.B.1b** Sort, classify and compare familiar shapes. **9.B.1c** Identify lines of symmetry in simple figures and construct symmetrical figures using various concrete materials.	**9.B.2** Compare geometric figures and determine their properties including parallel, perpendicular, similar, congruent and line symmetry.
C. Construct convincing arguments and proofs to solve problems.	**9.C.1** Draw logical conclusions and communicate reasoning about simple geometric figures and patterns using concrete materials, diagrams and contemporary technology.	**9.C.2** Formulate logical arguments about geometric figures and patterns and communicate reasoning.
D. Use trigonometric ratios and circular functions to solve problems.	[BLANK]	[BLANK]

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Geometry provides important methods for reasoning and solving problems with points, lines, planes and space. The word "geometry" comes from Greek words meaning "measurement of the Earth." While we use modern technology and employ a wider variety of mathematical tools today, we still study geometry to understand the shapes and dimensions of our world. The applications of geometry are widespread in construction, engineering, architecture, mapmaking and art. Historically, geometry is a way to develop skill in forming convincing arguments and proofs. This goal of developing a means of argument and validation remains an important part of our reasons for studying geometry today.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
9.A.3a Draw or construct two- and three-dimensional geometric figures including prisms, pyramids, cylinders and cones. **9.A.3b** Draw transformation images of figures, with and without the use of technology. **9.A.3c** Use concepts of symmetry, congruency, similarity, scale, perspective, and angles to describe and analyze two- and three-dimensional shapes found in practical applications (e.g., geodesic domes, A-frame houses, basketball courts, inclined planes, art forms, blueprints).	**9.A.4a** Construct a model of a three-dimensional figure from a two-dimensional pattern. **9.A.4b** Make perspective drawings, tessellations and scale drawings, with and without the use of technology.	**9.A.5** Use geometric figures and their properties to solve problems in the arts, the physical and life sciences and the building trades, with and without the use of technology.
9.B.3 Identify, describe, classify and compare two- and three- dimensional geometric figures and models according to their properties.	**9.B.4** Recognize and apply relationships within and among geometric figures.	**9.B.5** Construct and use two- and three-dimensional models of objects that have practical applications (e.g., blueprints, topographical maps, scale models).
9.C.3a Construct, develop and communicate logical arguments (informal proofs) about geometric figures and patterns. **9.C.3b** Develop and solve problems using geometric relationships and models, with and without the use of technology.	**9.C.4a** Construct and test logical arguments for geometric situations using technology where appropriate. **9.C.4b** Construct and communicate convincing arguments for geometric situations. **9.C.4c** Develop and communicate mathematical proofs (e.g., two-column, paragraph, indirect) and counter examples for geometric statements.	**9.C.5a** Perform and describe an original investigation of a geometric problem and verify the analysis and conclusions to an audience. **9.C.5b** Apply physical models, graphs, coordinate systems, networks and vectors to develop solutions in applied contexts (e.g., bus routing, areas of irregular shapes, describing forces and other physical quantities).
9.D.3 Compute distances, lengths and measures of angles using proportions, the Pythagorean theorem and its converse.	**9.D.4** Analyze and solve problems involving triangles (e.g., distances which cannot be measured directly) using trigonometric ratios.	**9.D.5** Analyze and solve problems involving periodic patterns (e.g., sound waves, tide variations) using circular functions and communicate results orally and in writing.

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MATHEMATICS

STATE GOAL 10: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Organize, describe and make predictions from existing data.	**10.A.1a** Organize and display data using pictures, tallies, tables, charts or bar graphs. **10.A.1b** Answer questions and make predictions based on given data.	**10.A.2a** Organize and display data using pictures, tallies, tables, charts, bar graphs, line graphs, line plots and stem-and-leaf graphs. **10.A.2b** Using a data set, determine mean, median, mode and range, with and without the use of technology. **10.A.2c** Make predictions and decisions based on data and communicate their reasoning.
B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.	**10.B.1a** Formulate questions of interest and design surveys or experiments to gather data. **10.B.1b** Collect, organize and describe data using pictures, tallies, tables, charts or bar graphs. **10.B.1c** Analyze data, draw conclusions and communicate the results.	**10.B.2a** Formulate questions of interest and select methods to systematically collect data. **10.B.2b** Collect, organize and display data using tables, charts, bar graphs, line graphs, circle graphs, line plots and stem-and-leaf graphs. **10.B.2c** Analyze the data using mean, median, mode and range, as appropriate, with or without the use of technology. **10.B.2d** Interpret results or make relevant decisions based on the data gathered.
C. Determine, describe and apply the probabilities of events.	**10.C.1a** Describe the concept of probability in relationship to likelihood and chance. **10.C.1b** Systematically list all possible outcomes of a simple one-stage experiment (e.g., the flip of one coin, the toss of one die, the spin of a spinner).	**10.C.2a** Calculate the probability of a simple event. **10.C.2b** Compare the likelihood of events in terms of certain, more likely, less likely or impossible. **10.C.2c** Determine the probability of an event involving "and", "or" or "not".

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

The ability to understand and interpret data (e.g., opinion polls, stock prices, tax rates, crime statistics, scientific studies, weather reports) grows more important each day. Students must be able to organize data, make sense of variables and patterns, and judge the logical reasonableness of any claims and interpretations made. Even very young students can count objects and communicate their findings with charts and graphs. Students of all ages can collect, display and interpret data to answer specific questions. They also must construct and analyze arguments that involve data and its interpretation. All students need to understand and apply the role probability plays in data collection and decision making. Data analysis and use are important abilities necessary for all careers.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
10.A.3a Construct, read and interpret tables, graphs (including circle graphs) and charts to organize and represent data. **10.A.3b** Compare the mean, median, mode and range, with and without the use of technology. **10.A.3c** Test the reasonableness of an argument based on data and communicate their findings.	**10.A.4a** Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-plots. **10.A.4b** Analyze data using mean, median, mode, range, variance and standard deviation of a data set, with and without the use of technology. **10.A.4c** Predict from data using interpolation, extrapolation and trend lines, with and without the use of technology.	**10.A.5** Construct a statistics-based presentation, individually and as members of a team, to communicate and justify the results of a project.
10.B.3 Formulate questions (e.g., relationships between car age and mileage, average incomes and years of schooling), devise and conduct experiments or simulations, gather data, draw conclusions and communicate results to an audience using traditional methods and contemporary technologies.	**10.B.4** Design and execute surveys or experiments, gather data to answer relevant questions, and communicate results and conclusions to an audience using traditional methods and contemporary technology.	**10.B.5** Design a statistical experiment to answer a question about a realistic situation, conduct the experiment, use statistics to interpret the data, and communicate the results, individually and as members of a team.
10.C.3a Determine the probability and odds of events using fundamental counting principles. **10.C.3b** Analyze problem situations (e.g., board games, grading scales) and make predictions about results.	**10.C.4a** Solve problems of chance using the principles of probability including conditional settings. **10.C.4b** Design and conduct simulations (e.g., waiting times at restaurant, probabilities of births, likelihood of game prizes), with and without the use of technology. **10.C.4c** Propose and interpret discrete probability distributions, with and without the use of technology.	**10.C.5a** Compute conditional probabilities and the probabilities of independent events. **10.C.5b** Compute probabilities in counting situations involving permutations and combinations. **10.C.5c** Make predictions using probabilities associated with normally distributed events.

SCIENCE

State Goals: 11-13

SCIENCE

The *Illinois Learning Standards for Science* were developed using the 1985 State Goals for Science, the National Science Education Standards, various other state and national works, and local education standards contributed by team members.

Science is a creative endeavor of the human mind. It offers a special perspective of the natural world in terms of understanding and interaction. The aim of science education is to develop in learners a rich and full understanding of the inquiry process; the key concepts and principles of life sciences, physical science, and earth and space sciences; and issues of science, technology, and society in historical and contemporary contexts. The National Science Education Standards present these understandings and their interactions with the natural world as eight science content standard categories. The *Illinois Learning Standards for Science* integrate these categories into a powerful resource for the design and evaluation of science curricula taught in Illinois schools.

The *Illinois Learning Standards for Science* are organized by goals that inform one another and depend upon one another for meaning. Expectations for learners related to the inquiry process are presented in standards addressing the doing of science and elements of technological design. Unifying concepts connect scientific understanding and process and are embedded in standards spanning life science, physical science, and earth and space science. The importance of this knowledge and its application is conveyed in standards describing the conventions and nature of the scientific enterprise and the interplay among science, technology and society in past, present and future contexts.

APPLICATIONS OF LEARNING

Through Applications of Learning, students demonstrate and deepen their understanding of basic knowledge and skills. These applied learning skills cross academic disciplines and reinforce the important learning of the disciplines. The ability to use these skills will greatly influence students' success in school, in the workplace and in the community.

SOLVING PROBLEMS

Recognize and investigate problems; formulate and propose solutions supported by reason and evidence.

Asking questions and seeking answers are at the heart of scientific inquiry. Following the steps of scientific inquiry, students learn how to gather evidence, review and understand their findings, and compare their solutions with those of others. They learn that there can be differing solutions to the same problem, some more useful than others. In the process, they learn and apply scientific principles. They also learn to be objective in deciding whether their solutions meet specifications and perform as desired.

COMMUNICATING

Express and interpret information and ideas.

Scientists must carefully describe their methods and results to a variety of audiences, including other scientists. This requires precise and complete descriptions and the presentation of conclusions supported by evidence. Young science students develop the powers of observation and description. Older students gain the ability to organize and study data, to determine its meaning, to translate their findings into clear understandable language and to compare their results with those of other investigators.

USING TECHNOLOGY

Use appropriate instruments, electronic equipment, computers and networks to access information, process ideas and communicate results.

Technology is invented and improved by the use of scientific principles. In turn, scientists depend on technology in performing experiments, analyzing data and communicating the results. Science students learn to use a range of technologies: instruments, computer hardware and software, on-line services and equipment, primary source data and images, and communication networks. They learn how technology, in turn, is the result of a scientific design process that includes continual refinements and improvements.

WORKING ON TEAMS

Learn and contribute productively as individuals and as members of groups.

The practical application of science requires both individual and group efforts. Individuals bring unique insight and focus to the work of inquiry and problem solving. Working in groups, scientists pose questions, share hypotheses, divide their experimental efforts, and share data and results. Science students have the opportunity to work both ways—as individuals and as members of teams organized to conduct complex investigations and solve problems.

MAKING CONNECTIONS

Recognize and apply connections of important information and ideas within and among learning areas.

Science has many disciplines, all interrelated. Understanding the functioning of living things depends on knowing chemistry; understanding chemistry depends on knowing physics. In the same way, science itself is highly dependent on mathematics—and it also relates strongly to medicine, geography, physical development and health, social trends and issues, and many other topics. Science, at its best, provides knowledge and skills that improve the understanding of virtually all subjects.

STATE GOAL 11: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Know and apply the concepts, principles and processes of scientific inquiry.	**11.A.1a** Describe an observed event. **11.A.1b** Develop questions on scientific topics. **11.A.1c** Collect data for investigations using measuring instruments and technologies. **11.A.1d** Record and store data using available technologies. **11.A.1e** Arrange data into logical patterns and describe the patterns. **11.A.1f** Compare observations of individual and group results.	**11.A.2a** Formulate questions on a specific science topic and choose the steps needed to answer the questions. **11.A.2b** Collect data for investigations using scientific process skills including observing, estimating and measuring. **11.A.2c** Construct charts and visualizations to display data. **11.A.2d** Use data to produce reasonable explanations. **11.A.2e** Report and display the results of individual and group investigations.
B. Know and apply the concepts, principles and processes of technological design.	**11.B.1a** Given a simple design problem, formulate possible solutions. **11.B.1b** Design a device that will be useful in solving the problem. **11.B.1c** Build the device using the materials and tools provided. **11.B.1d** Test the device and record results using given instruments, techniques and measurement methods. **11.B.1e** Report the design of the device, the test process and the results in solving a given problem.	**11.B.2a** Identify a design problem and propose possible solutions. **11.B.2b** Develop a plan, design and procedure to address the problem identifying constraints (e.g., time, materials, technology). **11.B.2c** Build a prototype of the design using available tools and materials. **11.B.2d** Test the prototype using suitable instruments, techniques and quantitative measurements to record data. **11.B.2e** Assess test results and the effectiveness of the design using given criteria and noting possible sources of error. **11.B.2f** Report test design, test process and test results.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

The inquiry process prepares learners to engage in science and apply methods of technological design. This understanding will enable students to pose questions, use models to enhance understanding, make predictions, gather and work with data, use appropriate measurement methods, analyze results, draw conclusions based on evidence, communicate their methods and results, and think about the implications of scientific research and technological problem solving.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
11.A.3a Formulate hypotheses that can be tested by collecting data. **11.A.3b** Conduct scientific experiments that control all but one variable. **11.A.3c** Collect and record data accurately using consistent measuring and recording techniques and media. **11.A.3d** Explain the existence of unexpected results in a data set. **11.A.3e** Use data manipulation tools and quantitative (e.g., mean, mode, simple equations) and representational methods (e.g., simulations, image processing) to analyze measurements. **11.A.3f** Interpret and represent results of analysis to produce findings. **11.A.3g** Report and display the process and results of a scientific investigation.	**11.A.4a** Formulate hypotheses referencing prior research and knowledge. **11.A.4b** Conduct controlled experiments or simulations to test hypotheses. **11.A.4c** Collect, organize and analyze data accurately and precisely. **11.A.4d** Apply statistical methods to the data to reach and support conclusions. **11.A.4e** Formulate alternative hypotheses to explain unexpected results. **11.A.4f** Using available technology, report, display and defend to an audience conclusions drawn from investigations.	**11.A.5a** Formulate hypotheses referencing prior research and knowledge. **11.A.5b** Design procedures to test the selected hypotheses. **11.A.5c** Conduct systematic controlled experiments to test the selected hypotheses. **11.A.5d** Apply statistical methods to make predictions and to test the accuracy of results. **11.A.5e** Report, display and defend the results of investigations to audiences that may include professionals and technical experts.
11.B.3a Identify an actual design problem and establish criteria for determining the success of a solution. **11.B.3b** Sketch, propose and compare design solutions to the problem considering available materials, tools, cost effectiveness and safety. **11.B.3c** Select the most appropriate design and build a prototype or simulation. **11.B.3d** Test the prototype using available materials, instruments and technology and record the data. **11.B.3e** Evaluate the test results based on established criteria, note sources of error and recommend improvements. **11.B.3f** Using available technology, report the relative success of the design based on the test results and criteria.	**11.B.4a** Identify a technological design problem inherent in a commonly used product. **11.B.4b** Propose and compare different solution designs to the design problem based upon given constraints including available tools, materials and time. **11.B.4c** Develop working visualizations of the proposed solution designs (e.g., blueprints, schematics, flowcharts, cad-cam, animations). **11.B.4d** Determine the criteria upon which the designs will be judged, identify advantages and disadvantages of the designs and select the most promising design. **11.B.4e** Develop and test a prototype or simulation of the solution design using available materials, instruments and technology. **11.B.4f** Evaluate the test results based on established criteria, note sources of error and recommend improvements. **11.B.4g** Using available technology, report to an audience the relative success of the design based on the test results and criteria.	**11.B.5a** Identify a design problem that has practical applications and propose possible solutions, considering such constraints as available tools, materials, time and costs. **11.B.5b** Select criteria for a successful design solution to the identified problem. **11.B.5c** Build and test different models or simulations of the design solution using suitable materials, tools and technology. **11.B.5d** Choose a model and refine its design based on the test results. **11.B.5e** Apply established criteria to evaluate the suitability, acceptability, benefits, drawbacks and consequences for the tested design solution and recommend modifications and refinements. **11.B.5f** Using available technology, prepare and present findings of the tested design solution to an audience that may include professional and technical experts.

STATE GOAL 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Know and apply concepts that explain how living things function, adapt and change.	**12.A.1a** Identify and describe the component parts of living things (e.g., birds have feathers; people have bones, blood, hair, skin) and their major functions. **12.A.1b** Categorize living organisms using a variety of observable features (e.g., size, color, shape, backbone).	**12.A.2a** Describe simple life cycles of plants and animals and the similarities and differences in their offspring. **12.A.2b** Categorize features as either inherited or learned (e.g., flower color or eye color is inherited; language is learned).
B. Know and apply concepts that describe how living things interact with each other and with their environment.	**12.B.1a** Describe and compare characteristics of living things in relationship to their environments. **12.B.1b** Describe how living things depend on one another for survival.	**12.B.2a** Describe relationships among various organisms in their environments (e.g., predator/prey, parasite/host, food chains and food webs). **12.B.2b** Identify physical features of plants and animals that help them live in different environments (e.g., specialized teeth for eating certain foods, thorns for protection, insulation for cold temperature).
C. Know and apply concepts that describe properties of matter and energy and the interactions between them.	**12.C.1a** Identify and compare sources of energy (e.g., batteries, the sun). **12.C.1b** Compare large-scale physical properties of matter (e.g., size, shape, color, texture, odor).	**12.C.2a** Describe and compare types of energy including light, heat, sound, electrical and mechanical. **12.C.2b** Describe and explain the properties of solids, liquids and gases.
D. Know and apply concepts that describe force and motion and the principles that explain them.	**12.D.1a** Identify examples of motion (e.g., moving in a straight line, vibrating, rotating). **12.D.1b** Identify observable forces in nature (e.g., pushes, pulls, gravity, magnetism).	**12.D.2a** Explain constant, variable and periodic motions. **12.D.2b** Demonstrate and explain ways that forces cause actions and reactions (e.g., magnets attracting and repelling; objects falling, rolling and bouncing).

GOAL 12 CONTINUED

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

This goal is comprised of key concepts and principles in the life, physical and earth/space sciences that have considerable explanatory and predictive power for scientists and non-scientists alike. These ideas have been thoroughly studied and have stood the test of time. Knowing and being able to apply these concepts, principles and processes help students understand what they observe in nature and through scientific experimentation. A working knowledge of these concepts and principles allows students to relate new subject matter to material previously learned and to create deeper and more meaningful levels of understanding.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
12.A.3a Explain how cells function as "building blocks" of organisms and describe the requirements for cells to live. **12.A.3b** Compare characteristics of organisms produced from a single parent with those of organisms produced by two parents. **12.A.3c** Compare and contrast how different forms and structures reflect different functions (e.g., similarities and differences among animals that fly, walk or swim; structures of plant cells and animal cells).	**12.A.4a** Explain how genetic combinations produce visible effects and variations among physical features and cellular functions of organisms. **12.A.4b** Describe the structures and organization of cells and tissues that underlie basic life functions including nutrition, respiration, cellular transport, biosynthesis and reproduction. **12.A.4c** Describe processes by which organisms change over time using evidence from comparative anatomy and physiology, embryology, the fossil record, genetics and biochemistry.	**12.A.5a** Explain changes within cells and organisms in response to stimuli and changing environmental conditions (e.g., homeostasis, dormancy). **12.A.5b** Analyze the transmission of genetic traits, diseases and defects.
12.B.3a Identify and classify biotic and abiotic factors in an environment that affect population density, habitat and placement of organisms in an energy pyramid. **12.B.3b** Compare and assess features of organisms for their adaptive, competitive and survival potential (e.g., appendages, reproductive rates, camouflage, defensive structures).	**12.B.4a** Compare physical, ecological and behavioral factors that influence interactions and interdependence of organisms. **12.B.4b** Simulate and analyze factors that influence the size and stability of populations within ecosystems (e.g., birth rate, death rate, predation, migration patterns).	**12.B.5a** Analyze and explain biodiversity issues and the causes and effects of extinction. **12.B.5b** Compare and predict how life forms can adapt to changes in the environment by applying concepts of change and constancy (e.g., variations within a population increase the likelihood of survival under new conditions).
12.C.3a Explain interactions of energy with matter including changes of state and conservation of mass and energy. **12.C.3b** Model and describe the chemical and physical characteristics of matter (e.g., atoms, molecules, elements, compounds, mixtures).	**12.C.4a** Use kinetic theory, wave theory, quantum theory and the laws of thermodynamics to explain energy transformations. **12.C.4b** Analyze and explain the atomic and nuclear structure of matter.	**12.C.5a** Analyze reactions (e.g., nuclear reactions, burning of fuel, decomposition of waste) in natural and man-made energy systems. **12.C.5b** Analyze the properties of materials (e.g., mass, boiling point, melting point, hardness) in relation to their physical and/or chemical structures.
12.D.3a Explain and demonstrate how forces affect motion (e.g., action/reaction, equilibrium conditions, free-falling objects). **12.D.3b** Explain the factors that affect the gravitational forces on objects (e.g., changes in mass, distance).	**12.D.4a** Explain and predict motions in inertial and accelerated frames of reference. **12.D.4b** Describe the effects of electromagnetic and nuclear forces including atomic and molecular bonding, capacitance and nuclear reactions.	**12.D.5a** Analyze factors that influence the relative motion of an object (e.g., friction, wind shear, cross currents, potential differences). **12.D.5b** Analyze the effects of gravitational, electromagnetic and nuclear forces on a physical system.

GOAL 12 (CONTINUED)

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
E. Know and apply concepts that describe the features and processes of the Earth and its resources.	**12.E.1a** Identify components and describe diverse features of the Earth's land, water and atmospheric systems. **12.E.1b** Identify and describe patterns of weather and seasonal change. **12.E.1c** Identify renewable and nonrenewable natural resources.	**12.E.2a** Identify and explain natural cycles of the Earth's land, water and atmospheric systems (e.g., rock cycle, water cycle, weather patterns). **12.E.2b** Describe and explain short-term and long-term interactions of the Earth's components (e.g., earthquakes, types of erosion). **12.E.2c** Identify and classify recyclable materials.
F. Know and apply concepts that explain the composition and structure of the universe and Earth's place in it.	**12.F.1a** Identify and describe characteristics of the sun, Earth and moon as familiar objects in the solar system. **12.F.1b** Identify daily, seasonal and annual patterns related to the Earth's rotation and revolution.	**12.F.2a** Identify and explain natural cycles and patterns in the solar system (e.g., order of the planets; moon phases; seasons as related to Earth's tilt, one's latitude, and where Earth is in its yearly orbit around the sun). **12.F.2b** Explain the apparent motion of the sun and stars. **12.F.2c** Identify easily recognizable star patterns (e.g., the Big Dipper, constellations).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
12.E.3a Analyze and explain large-scale dynamic forces, events and processes that affect the Earth's land, water and atmospheric systems (e.g., jetstream, hurricanes, plate tectonics). **12.E.3b** Describe interactions between solid earth, oceans, atmosphere and organisms that have resulted in ongoing changes of Earth (e.g., erosion, El Nino). **12.E.3c** Evaluate the biodegradability of renewable and nonrenewable natural resources.	**12.E.4a** Explain how external and internal energy sources drive Earth processes (e.g., solar energy drives weather patterns; internal heat drives plate tectonics). **12.E.4b** Describe how rock sequences and fossil remains are used to interpret the age and changes in the Earth.	**12.E.5** Analyze the processes involved in naturally occurring short-term and long-term Earth events (e.g., floods, ice ages, temperature, sea-level fluctuations).
12.F.3a Simulate, analyze and explain the effects of gravitational force in the solar system (e.g., orbital shape and speed, tides, spherical shape of the planets and moons). **12.F.3b** Describe the organization and physical characteristics of the solar system (e.g., sun, planets, satellites, asteroids, comets). **12.F.3c** Compare and contrast the sun as a star with other objects in the Milky Way Galaxy (e.g., nebulae, dust clouds, stars, black holes).	**12.F.4a** Explain theories, past and present, for changes observed in the universe. **12.F.4b** Describe and compare the chemical and physical characteristics of galaxies and objects within galaxies (e.g., pulsars, nebulae, black holes, dark matter, stars).	**12.F.5a** Compare the processes involved in the life cycle of stars (e.g., gravitational collapse, thermonuclear fusion, nova) and evaluate the supporting evidence. **12.F.5b** Describe the size and age of the universe and evaluate the supporting evidence (e.g., red-shift, Hubble's constant).

STATE GOAL 13: Understand the relationships among science, technology and society in historical and contemporary contexts.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Know and apply the accepted practices of science.	**13.A.1a** Use basic safety practices (e.g., not tasting materials without permission, "stop/drop/roll"). **13.A.1b** Explain why similar results are expected when procedures are done the same way. **13.A.1c** Explain how knowledge can be gained by careful observation.	**13.A.2a** Demonstrate ways to avoid injury when conducting science activities (e.g., wearing goggles, fire extinguisher use). **13.A.2b** Explain why similar investigations may not produce similar results. **13.A.2c** Explain why keeping accurate and detailed records is important.
B. Know and apply concepts that describe the interaction between science, technology and society.	**13.B.1a** Explain the uses of common scientific instruments (e.g., ruler, thermometer, balance, probe, computer). **13.B.1b** Explain how using measuring tools improves the accuracy of estimates. **13.B.1c** Describe contributions men and women have made to science and technology. **13.B.1d** Identify and describe ways that science and technology affect people's everyday lives (e.g., transportation, medicine, agriculture, sanitation, communication occupations). **13.B.1e** Demonstrate ways to reduce, reuse and recycle materials.	**13.B.2a** Explain how technology is used in science for a variety of purposes (e.g., sample collection, storage and treatment; measurement; data collection, storage and retrieval; communication of information). **13.B.2b** Describe the effects on society of scientific and technological innovations (e.g., antibiotics, steam engine, digital computer). **13.B.2c** Identify and explain ways that science and technology influence the lives and careers of people. **13.B.2d** Compare the relative effectiveness of reducing, reusing and recycling in actual situations. **13.B.2e** Identify and explain ways that technology changes ecosystems (e.g., dams, highways, buildings, communication networks, power plants). **13.B.2f** Analyze how specific personal and societal choices that humans make affect local, regional and global ecosystems (e.g., lawn and garden care, mass transit).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Understanding the nature and practices of science such as ensuring the validity and replicability of results, building upon the work of others and recognizing risks involved in experimentation gives learners a useful sense of the scientific enterprise. In addition, the relationships among science, technology and society give humans the ability to change and improve their surroundings. Learners who understand this relationship will be able to appreciate the efforts and effects of scientific discovery and applications of technology on their own lives and on the society in which we live.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
13.A.3a Identify and reduce potential hazards in science activities (e.g., ventilation, handling chemicals). **13.A.3b** Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices. **13.A.3c** Explain what is similar and different about observational and experimental investigations.	**13.A.4a** Estimate and suggest ways to reduce the degree of risk involved in science activities. **13.A.4b** Assess the validity of scientific data by analyzing the results, sample set, sample size, similar previous experimentation, possible misrepresentation of data presented and potential sources of error. **13.A.4c** Describe how scientific knowledge, explanations and technological designs may change with new information over time (e.g., the understanding of DNA, the design of computers). **13.A.4d** Explain how peer review helps to assure the accurate use of data and improves the scientific process.	**13.A.5a** Design procedures and policies to eliminate or reduce risk in potentially hazardous science activities. **13.A.5b** Explain criteria that scientists use to evaluate the validity of scientific claims and theories. **13.A.5c** Explain the strengths, weaknesses and uses of research methodologies including observational studies, controlled laboratory experiments, computer modeling and statistical studies. **13.A.5d** Explain, using a practical example (e.g., cold fusion), why experimental replication and peer review are essential to scientific claims.
13.B.3a Identify and explain ways that scientific knowledge and economics drive technological development. **13.B.3b** Identify important contributions to science and technology that have been made by individuals and groups from various cultures. **13.B.3c** Describe how occupations use scientific and technological knowledge and skills. **13.B.3d** Analyze the interaction of resource acquisition, technological development and ecosystem impact (e.g., diamond, coal or gold mining; deforestation). **13.B.3e** Identify advantages and disadvantages of natural resource conservation and management programs. **13.B.3f** Apply classroom-developed criteria to determine the effects of policies on local science and technology issues (e.g., energy consumption, landfills, water quality).	**13.B.4a** Compare and contrast scientific inquiry and technological design as pure and applied sciences. **13.B.4b** Analyze a particular occupation to identify decisions that may be influenced by a knowledge of science. **13.B.4c** Analyze ways that resource management and technology can be used to accommodate population trends. **13.B.4d** Analyze local examples of resource use, technology use or conservation programs; document findings; and make recommendations for improvements. **13.B.4e** Evaluate claims derived from purported scientific studies used in advertising and marketing strategies.	**13.B.5a** Analyze challenges created by international competition for increases in scientific knowledge and technological capabilities (e.g., patent issues, industrial espionage, technology obsolescence). **13.B.5b** Analyze and describe the processes and effects of scientific and technological breakthroughs. **13.B.5c** Design and conduct an environmental impact study, analyze findings and justify recommendations. **13.B.5d** Analyze the costs, benefits and effects of scientific and technological policies at the local, state, national and global levels (e.g., genetic research, Internet access). **13.B.5e** Assess how scientific and technological progress has affected other fields of study, careers and job markets and aspects of everyday life.

SOCIAL SCIENCE

State Goals: 14-18

SOCIAL SCIENCE

The *Illinois Learning Standards for Social Science* were developed using the 1985 Illinois State Goals for Social Science, the National Standards for World History, the National Standards for United States History, the National Geography Standards, the National Standards for Civics and Government, other various state and national work, and local standards contributed by team members.

The integrated study of the social sciences and humanities promotes civic competence. Within the school program social science provides coordinated, systematic study of such disciplines as anthropology, economics, geography, history, law, political science, and sociology, as well as appropriate content from the humanities, mathematics and natural sciences. The study of social science helps people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world.

The individual disciplines that comprise social science are often taught independently, yet all of these disciplines recognize that they owe much to the others. Students who achieve the standards for social science will have a broad understanding of political and economic systems. They will better understand events, trends, personalities and movements in local, state, national and world history. They will know local, state, national and world geography. They also will grasp how the concepts of social science can help interpret human actions and prepare them for careers and lifelong learning.

APPLICATIONS OF LEARNING

Through Applications of Learning, students demonstrate and deepen their understanding of basic knowledge and skills. These applied learning skills cross academic disciplines and reinforce the important learning of the disciplines. The ability to use these skills will greatly influence students' success in school, in the workplace and in the community.

SOLVING PROBLEMS

Recognize and investigate problems; formulate and propose solutions supported by reason and evidence.

In social science, solving problems helps students to recognize that individual decisions and actions have consequences—and these consequences affect the way people, groups and nations associate with each other. Students of social science are asked to analyze information from a variety of sources and to solve problems through a rational process based on goals and criteria.

COMMUNICATING

Express and interpret information and ideas.

To gather a range of opinions and determine the best course of action, students must interpret information. To study and draw conclusions about social science issues, students need to read and interpret textual and visual information, be able to listen carefully to others, and be able to organize and explain their own ideas using various media.

USING TECHNOLOGY

Use appropriate instruments, electronic equipment, computers and networks to access information, process ideas and communicate results.

Technology today provides a channel through which students can gather knowledge of the past, search information about today and make hypotheses regarding the future. This technology includes databases, computer programs, on-line services and interactive telecommunications. It allows students to gather and process data from a variety of sources, from archives in the Library of Congress to historical art works from around the world. Students can share ideas and information not only with their classmates, but with a "virtual classroom" of students from across the world—social science in action.

WORKING ON TEAMS

Learn and contribute productively as individuals and as members of groups.

Social science is about people's interactions. Study in this field encourages students to listen carefully to the views of all members of a group and to represent their own points of view appropriately and effectively. The group benefits from the individual knowledge and skills of its members. Each individual—like each part of social science itself—holds an important relationship to the whole.

MAKING CONNECTIONS

Recognize and apply connections of important information and ideas within and among learning areas.

Social science is a highly integrated set of disciplines. Understanding economics requires knowing mathematics; understanding geography requires knowledge of earth science. Students must grasp that the connections between the parts of social science—and their relations to other academic areas—are the key to better understanding how people interact. Students in social science must know data collection and analysis, library and field research, debate, discussion and decision making—all of which are key elements to successful careers.

STATE GOAL 14: Understand political systems, with an emphasis on the United States.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Understand and explain basic principles of the United States government.	**14.A.1** Describe the fundamental principles of government including representative government, government of law, individual rights and the common good.	**14.A.2** Explain the importance of fundamental concepts expressed and implied in major documents including the Declaration of Independence, the United States Constitution and the Illinois Constitution.
B. Understand the structures and functions of the political systems of Illinois, the United States and other nations.	**14.B.1** Identify the different levels of government as local, state and national.	**14.B.2** Explain what government does at local, state and national levels.
C. Understand election processes and responsibilities of citizens.	**14.C.1** Identify concepts of responsible citizenship including respect for the law, patriotism, civility and working with others.	**14.C.2** Describe and evaluate why rights and responsibilities are important to the individual, family, community, workplace, state and nation (e.g., voting, protection under the law).
D. Understand the roles and influences of individuals and interest groups in the political systems of Illinois, the United States and other nations.	**14.D.1** Identify the roles of civic leaders (e.g., elected leaders, public service leaders).	**14.D.2** Explain ways that individuals and groups influence and shape public policy.
E. Understand United States foreign policy as it relates to other nations and international issues.	**14.E.1** Identify relationships that the federal government establishes with other nations.	**14.E.2** Determine and explain the leadership role of the United States in international settings.
F. Understand the development of United States political ideas and traditions.	**14.F.1** Describe political ideas and traditions important to the development of the United States including democracy, individual rights and the concept of freedom.	**14.F.2** Identify consistencies and inconsistencies between expressed United States political traditions and ideas and actual practices (e.g., freedom of speech, right to bear arms, slavery, voting rights).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

The existence and advancement of a free society depend on the knowledge, skills and understanding of its citizenry. Through the study of various forms and levels of government and the documents and institutions of the United States, students will develop the skills and knowledge that they need to be contributing citizens, now and in the future.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
14.A.3 Describe how responsibilities are shared and limited by the United States and Illinois Constitutions and significant court decisions.	**14.A.4** Analyze how local, state and national governments serve the purposes for which they were created.	**4.A.5** Analyze ways in which federalism protects individual rights and promotes the common good and how at times has made it possible for states to protect and deny rights for certain groups.
14.B.3 Identify and compare the basic political systems of Illinois and the United States as prescribed in their constitutions.	**14.B.4** Compare the political systems of the United States to other nations.	**14.B.5** Analyze similarities and differences among world political systems (e.g., democracy, socialism, communism).
14.C.3 Compare historical issues involving rights, roles and status of individuals in relation to municipalities, states and the nation.	**14.C.4** Describe the meaning of participatory citizenship (e.g., volunteerism, voting) at all levels of government and society in the United States.	**14.C.5** Analyze the consequences of participation and non-participation in the electoral process (e.g., women's suffrage, voter registration, effects of media).
14.D.3 Describe roles and influences of individuals, groups and media in shaping current Illinois and United States public policy (e.g., general public opinion, special interest groups, formal parties, media).	**14.D.4** Analyze roles and influences of individuals, groups and media in shaping current debates on state and national policies.	**14.D.5** Interpret a variety of public policies and issues from the perspectives of different individuals and groups.
14.E.3 Compare the basic principles of the United States and its international interests (e.g., territory, environment, trade, use of technology).	**14.E.4** Analyze historical trends of United States foreign policy (e.g., emergence as a world leader - military, industrial, financial).	**14.E.5** Analyze relationships and tensions among members of the international community.
14.F.3a Analyze historical influences on the development of political ideas and practices as enumerated in the Declaration of Independence, the United States Constitution, the Bill of Rights and the Illinois Constitution. **14.F.3b** Describe how United States political ideas and traditions were instituted in the Constitution and the Bill of Rights.	**14.F.4a** Determine the historical events and processes that brought about changes in United States political ideas and traditions (e.g., the New Deal, Civil War). **14.F.4b** Describe how United States' political ideas, practices and technologies have extended rights for Americans in the 20th century (e.g., suffrage, civil rights, motor-voter registration).	**14.F.5** Interpret how changing geographical, economic, technological and social forces affect United States political ideas and traditions (e.g., freedom, equality and justice, individual rights).

STATE GOAL 15: Understand economic systems, with an emphasis on the United States.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Understand how different economic systems operate in the exchange, production, distribution and consumption of goods and services.	**15.A.1a** Identify advantages and disadvantages of different ways to distribute goods and services. **15.A.1b** Describe how wages/salaries can be earned in exchange for work.	**15.A.2a** Explain how economic systems decide what goods and services are produced, how they are produced and who consumes them. **15.A.2b** Describe how incomes reflect choices made about education and careers. **15.A.2c** Describe unemployment.
B. Understand that scarcity necessitates choices by consumers.	**15.B.1** Explain why consumers must make choices.	**15.B.2a** Identify factors that affect how consumers make their choices. **15.B.2b** Explain the relationship between the quantity of goods/services purchased and their price. **15.B.2c** Explain that when a choice is made, something else is given up.
C. Understand that scarcity necessitates choices by producers.	**15.C.1a** Describe how human, natural and capital resources are used to produce goods and services. **15.C.1b** Identify limitations in resources that force producers to make choices about what to produce.	**15.C.2a** Describe the relationship between price and quantity supplied of a good or service. **15.C.2b** Identify and explain examples of competition in the economy. **15.C.2c** Describe how entrepreneurs take risks in order to produce goods or services.

BEST COPY AVAILABLE

GOAL 15 CONTINUED

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

People's lives are directly affected by the economies of cities, states, nations and the world. All people engage in economic activity: buying, selling, trading, producing and consuming. By understanding economic systems—and how economics blends with other social sciences, students will be able to make more informed choices, prudently use resources and function as effective participants in the economies around them.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
15.A.3a Explain how market prices signal producers about what, how and how much to produce. **15.A.3b** Explain the relationship between productivity and wages. **15.A.3c** Describe the relationship between consumer purchases and businesses paying for productive resources. **15.A.3d** Describe the causes of unemployment (e.g., seasonal fluctuation in demand, changing jobs, changing skill requirements, national spending).	**15.A.4a** Explain how national economies vary in the extent that government and private markets help allocate goods, services and resources. **15.A.4b** Describe Gross Domestic Product (GDP). **15.A.4c** Analyze the impact of inflation on an individual and the economy as a whole. **15.A.4d** Explain the effects of unemployment on the economy.	**15.A.5a** Explain the impact of various determinants of economic growth (e.g., investments in human/physical capital, research and development, technological change) on the economy. **15.A.5b** Analyze the impact of economic growth. **15.A.5c** Analyze the impact of various determinants on the levels of GDP (e.g., quantity/quality of natural/capital resources, size/skills of the labor force). **15.A.5d** Explain the comparative value of the Consumer Price Index (e.g., goods and services in one year with earlier or later periods).
15.B.3a Describe the "market clearing price" of a good or service. **15.B.3b** Explain the effects of choice and competition on individuals and the economy as a whole.	**15.B.4a** Explain the costs and benefits of making consumer purchases through differing means (e.g., credit, cash). **15.B.4b** Analyze the impact of current events (e.g., weather/natural disasters, wars) on consumer prices.	**15.B.5a** Analyze the impact of changes in non-price determinants (e.g., changes in consumer income, changes in tastes and preferences) on consumer demand. **15.B.5b** Analyze how inflation and interest rates affect consumer purchasing power. **15.B.5c** Analyze elasticity as it applies to supply and demand and consumer decisions.
15.C.3 Identify and explain the effects of various incentives to produce a good or service.	**15.C.4a** Analyze the impact of political actions and natural phenomena (e.g., wars, legislation, natural disaster) on producers and production decisions. **15.C.4b** Explain the importance of research, development, invention, technology and entrepreneurship to the United States economy.	**15.C.5a** Explain how competition is maintained in the United States economy and how the level of competition varies in differing market structures (e.g., monopoly, oligopoly, monopolistic and perfect competition). **15.C.5b** Explain how changes in non-price determinants of supply (e.g., number of producers) affect producer decisions. **15.C.5c** Explain how government intervention with market prices can cause shortages or surpluses of a good or service (e.g., minimum wage policies, rent freezes, farm subsidies).

GOAL 15 CONTINUED

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
D. Understand trade as an exchange of goods or services.	**15.D.1a** Demonstrate the benefits of simple voluntary exchanges. **15.D.1b** Know that barter is a type of exchange and that money makes exchange easier.	**15.D.2a** Explain why people and countries voluntarily exchange goods and services. **15.D.2b** Describe the relationships among specialization, division of labor, productivity of workers and interdependence among producers and consumers.
E. Understand the impact of government policies and decisions on production and consumption in the economy.	**15.E.1** Identify goods and services provided by government.	**15E.2a** Explain how and why public goods and services are provided. **15.E.2b** Identify which public goods and services are provided by differing levels of government.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
15.D.3a Explain the effects of increasing and declining imports and exports to an individual and to the nation's economy as a whole. **15.D.3b** Explain how comparative advantage forms the basis for specialization and trade among nations. **15.D.3c** Explain how workers can affect their productivity through training and by using tools, machinery and technology.	**15.D.4a** Explain the meaning and importance of "balance of trade" and how trade surpluses and deficits between nations are determined. **15.D.4b** Describe the relationships between the availability and price of a nation's resources and its comparative advantage in relation to other nations. **15.D.4c** Describe the impact of worker productivity (output per worker) on business, the worker and the consumer.	**15.D.5a** Explain how transaction costs affect decisions to produce or consume. **15.D.5b** Analyze why trade barriers and exchange rates affect the flow of goods and services among nations. **15.D.5c** Explain how technology has affected trade in the areas of transportation, communication, finance and manufacturing.
15.E.3a Identify the types of taxes levied by differing levels of governments (e.g., income tax, sales tax, property tax). **15.E.3b** Explain how laws and government policies (e.g., property rights, contract enforcement, standard weights/measurements) establish rules that help a market economy function effectively.	**15.E.4a** Explain why government may intervene in a market economy. **15.E.4b** Describe social and environmental benefits and consequences of production and consumption. **15.E.4c** Analyze the relationship between a country's science/technology policies and its level and balance of trade.	**15.E.5a** Explain how and why government redistributes income in the economy. **15.E.5b** Describe how fiscal, monetary and regulatory policies affect overall levels of employment, output and consumption. **15.E.5c** Describe key schools of thought (e.g., classical, Keynesian, monetarist, supply-side) and explain their impact on government policies.

STATE GOAL 16: Understand events, trends, individuals and movements shaping the history of Illinois, the United States and other nations.

HISTORICAL ERAS

Local, State and United States History (US)
- Early history in the Americas to 1620
- Colonial history and settlement to 1763
- The American Revolution and early national period to 1820s
- National expansion from 1815 to 1850
- The Civil War and Reconstruction from 1850 to 1877
- Development of the industrial United States from 1865 to 1914
- The emergence of the United States as a world power from 1890 to 1920
- Prosperity, depression, the New Deal and World War II from 1920 to 1945
- Post World War II and the Cold War from 1945 to 1968
- Contemporary United States from 1968 to present

World History (W)
- Prehistory to 2000 BCE
- Early civilizations, nonwestern empires, and tropical civilizations
- The rise of pastoral peoples to 1000 BCE
- Classical civilizations from 1000 BCE to 500 CE
- Fragmentation and interaction of civilizations from 500 to 1100 CE
- Centralization of power in different regions from 1000 to 1500 CE
- Early modern world from 1450 to 1800
- Global unrest, change and revolution from 1750 to 1850
- Global encounters and imperialism and their effects from 1850 to 1914
- The twentieth century to 1945
- The contemporary world from 1945 to the present

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Apply the skills of historical analysis and interpretation.	**16.A.1a** Explain the difference between past, present and future time; place themselves in time. **16.A.1b** Ask historical questions and seek out answers from historical sources (e.g., myths, biographies, stories, old photographs, artwork, other visual or electronic sources). **16.A.1c** Describe how people in different times and places viewed the world in different ways.	**16.A.2a** Read historical stories and determine events which influenced their writing. **16.A.2b** Compare different stories about a historical figure or event and analyze differences in the portrayals and perspectives they present. **16.A.2c** Ask questions and seek answers by collecting and analyzing data from historic documents, images and other literary and non-literary sources.
B. Understand the development of significant political events.	**16.B.1a (US)** Identify key individuals and events in the development of the local community (e.g., Founders days, names of parks, streets, public buildings). **16.B.1b (US)** Explain why individuals, groups, issues and events are celebrated with local, state or national holidays or days of recognition (e.g., Lincoln's Birthday, Martin Luther King's Birthday, Pulaski Day, Fourth of July, Memorial Day, Labor Day, Veterans' Day, Thanksgiving).	**16.B.2a (US)** Describe how the European colonies in North America developed politically. **16.B.2b (US)** Identify major causes of the American Revolution and describe the consequences of the Revolution through the early national period, including the roles of George Washington, Thomas Jefferson and Benjamin Franklin. **16.B.2c (US)** Identify presidential elections that were pivotal in the formation of modern political parties. **16.B.2d (US)** Identify major political events and leaders within the United States historical eras since the adoption of the Constitution, including the westward expansion, Louisiana Purchase, Civil War, and 20th century wars as well as the roles of Thomas Jefferson, Abraham Lincoln, Woodrow Wilson, and Franklin D. Roosevelt.
	16.B.1 (W) Explain the contributions of individuals and groups who are featured in biographies, legends, folklore and traditions.	**16.B.2a (W)** Describe the historical development of monarchies, oligarchies and city-states in ancient civilizations. **16.B.2b (W)** Describe the origins of Western political ideas and institutions (e.g. Greek democracy, Roman republic, Magna Carta and Common Law, the Enlightenment).

GOAL 16 CONTINUED

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

George Santayana said "those who cannot remember the past are condemned to repeat it." In a broader sense, students who can examine and analyze the events of the past have a powerful tool for understanding the events of today and the future. They develop an understanding of how people, nations, actions and interactions have led to today's realities. In the process, they can better define their own roles as participating citizens.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
16.A.3a Describe how historians use models for organizing historical interpretation (e.g., biographies, political events, issues and conflicts). **16.A.3b** Make inferences about historical events and eras using historical maps and other historical sources. **16.A.3c** Identify the differences between historical fact and interpretation.	**16.A.4a** Analyze and report historical events to determine cause-and-effect relationships. **16.A.4b** Compare competing historical interpretations of an event.	**16.A.5a** Analyze historical and contemporary developments using methods of historical inquiry (pose questions, collect and analyze data, make and support inferences with evidence, report findings). **16.A.5b** Explain the tentative nature of historical interpretations.
16.B.3a (US) Describe how different groups competed for power within the colonies and how that competition led to the development of political institutions during the early national period. **16.B.3b (US)** Explain how and why the colonies fought for their independence and how the colonists' ideas are reflected in the Declaration of Independence and the United States Constitution. **16.B.3c (US)** Describe the way the Constitution has changed over time as a result of amendments and Supreme Court decisions. **16.B.3d (US)** Describe ways in which the United States developed as a world political power.	**16.B.4 (US)** Identify political ideas that have dominated United States historical eras (e.g., Federalist, Jacksonian, Progressivist, New Deal, New Conservative).	**16.B.5a (US)** Describe how modern political positions are affected by differences in ideologies and viewpoints that have developed over time (e.g., political parties' positions on government intervention in the economy). **16.B.5b (US)** Analyze how United States political history has been influenced by the nation's economic, social and environmental history.
16.B.3a (W) Compare the political characteristics of Greek and Roman civilizations with non-Western civilizations, including the early Han dynasty and Gupta empire, between 500 BCE and 500 CE. **16.B.3b (W)** Identify causes and effects of the decline of the Roman empire and other major world political events (e.g., rise of the Islamic empire, rise and decline of the T'ang dynasty, establishment of the kingdom of Ghana) between 500 CE and 1500 CE. **16.B.3c (W)** Identify causes and effects of European feudalism and the emergence of nation states between 500 CE and 1500 CE. **16.B.3d (W)** Describe political effects of European exploration and expansion on the Americas, Asia, and Africa after 1500 CE.	**16.B.4a (W)** Identify political ideas that began during the Renaissance and the Enlightenment and that persist today (e.g., church/state relationships). **16.B.4b (W)** Identify political ideas from the early modern historical era to the present which have had worldwide impact (e.g., nationalism/Sun Yat-Sen, non-violence/Ghandi, independence/Kenyatta).	**16.B.5a (W)** Analyze worldwide consequences of isolated political events, including the events triggering the Napoleonic Wars and World Wars I and II. **16.B.5b (W)** Describe how tensions in the modern world are affected by different political ideologies including democracy and totalitarianism. **16.B.5c (W)** Analyze the relationship of an issue in world political history to the related aspects of world economic, social and environmental history.

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As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
C. Understand the development of economic systems.	**16.C.1a (US)** Describe how Native American people in Illinois engaged in economic activities with other tribes and traders in the region prior to the Black Hawk War. **16.C.1b (US)** Explain how the economy of the students' local community has changed over time.	**16.C.2a (US)** Describe how slavery and indentured servitude influenced the early economy of the United States. **16.C.2b (US)** Explain how individuals, including John Deere, Thomas Edison, Robert McCormack, George Washington Carver and Henry Ford, contributed to economic change through ideas, inventions and entrepreneurship. **16.C.2c (US)** Describe significant economic events including industrialization, immigration, the Great Depression, the shift to a service economy and the rise of technology that influenced history from the industrial development era to the present.
	16.C.1a (W) Identify how people and groups in the past made economic choices (e.g., crops to plant, products to make, products to trade) to survive and improve their lives. **16.C.1b (W)** Explain how trade among people brought an exchange of ideas, technology and language.	**16.C.2a (W)** Describe the economic consequences of the first agricultural revolution, 4000 BCE-1000 BCE. **16.C.2b (W)** Describe the basic economic systems of the world's great civilizations including Mesopotamia, Egypt, Aegean/Mediterranean and Asian civilizations, 1000 BCE - 500 CE. **16.C.2c (W)** Describe basic economic changes that led to and resulted from the manorial agricultural system, the industrial revolution, the rise of the capitalism and the information/communication revolution.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
16.C.3a (US) Describe economic motivations that attracted Europeans and others to the Americas, 1500-1750. **16.C.3b (US)** Explain relationships among the American economy and slavery, immigration, industrialization, labor and urbanization, 1700-present. **16.C.3c (US)** Describe how economic developments and government policies after 1865 affected the country's economic institutions including corporations, banks and organized labor.	**16.C.4a (US)** Explain how trade patterns developed between the Americas and the rest of the global economy, 1500 - 1840. **16.C.4b (US)** Analyze the impact of westward expansion on the United States economy. **16.C.4c (US)** Describe how American economic institutions were shaped by industrialists, union leaders and groups including Southern migrants, Dust Bowl refugees, agricultural workers from Mexico and female workers since 1914.	**16.C.5a (US)** Analyze how and why the role of the United States in the world economy has changed since World War II. **16.C.5b (US)** Analyze the relationship between an issue in United States economic history and the related aspects of political, social and environmental history.
16.C.3a (W) Describe major economic trends from 1000 to 1500 CE including long distance trade, banking, specialization of labor, commercialization, urbanization and technological and scientific progress. **16.C.3b (W)** Describe the economic systems and trade patterns of North America, South America and Mesoamerica before the encounter with the Europeans. **16.C.3c (W)** Describe the impact of technology (e.g., weaponry, transportation, printing press, microchips) in different parts of the world, 1500 - present.	**16.C.4a (W)** Describe the growing dominance of American and European capitalism and their institutions after 1500. **16.C.4b (W)** Compare socialism and communism in Europe, America, Asia and Africa after 1815 CE. **16.C.4c (W)** Describe the impact of key individuals/ideas from 1500 - present, including Adam Smith, Karl Marx and John Maynard Keynes. **16.C.4d (W)** Describe how the maturing economies of Western Europe and Japan led to colonialism and imperialism.	**16.C.5a (W)** Explain how industrial capitalism became the dominant economic model in the world. **16.C.5b (W)** Describe how historical trends in population, urbanization, economic development and technological advancements have caused change in world economic systems. **16.C.5c (W)** Analyze the relationship between an issue in world economic history and the related aspects of political, social and environmental history.

GOAL 16 CONTINUED

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
D. Understand Illinois, United States and world social history.	**16.D.1 (US)** Describe key figures and organizations (e.g., fraternal/civic organizations, public service groups, community leaders) in the social history of the local community.	**16.D.2a (US)** Describe the various individual motives for settling in colonial America. **16.D.2b (US)** Describe the ways in which participation in the westward movement affected families and communities. **16.D.2c (US)** Describe the influence of key individuals and groups, including Susan B. Anthony/suffrage and Martin Luther King, Jr./civil rights, in the historical eras of Illinois and the United States.
	16.D.1 (W) Identify how customs and traditions from around the world influence the local community.	**16.D.2 (W)** Describe the various roles of men, women and children in the family, at work, and in the community in various time periods and places (e.g., ancient Rome, Medieval Europe, ancient China, Sub-Saharan Africa).
E. Understand Illinois, United States and world environmental history.	**16.E.1 (US)** Describe how the local environment has changed over time.	**16.E.2a (US)** Identify environmental factors that drew settlers to the state and region. **16.E.2b (US)** Identify individuals and events in the development of the conservation movement including John Muir, Theodore Roosevelt and the creation of the National Park System. **16.E.2c (US)** Describe environmental factors that influenced the development of transportation and trade in Illinois.
	16.E.1 (W) Compare depictions of the natural environment that are found in myths, legends, folklore and traditions.	**16.E.2a (W)** Describe how people in hunting and gathering and early pastoral societies adapted to their respective environments. **16.E.2b (W)** Identify individuals and their inventions (e.g., Watt/steam engine, Nobel/TNT, Edison/electric light) which influenced world environmental history.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
16.D.3a (US) Describe characteristics of different kinds of communities in various sections of America during the colonial/frontier periods and the 19th century. **16.D.3b (US)** Describe characteristics of different kinds of families in America during the colonial/frontier periods and the 19th century.	**16.D.4a (US)** Describe the immediate and long-range social impacts of slavery. **16.D.4b (US)** Describe unintended social consequences of political events in United States history (e.g., Civil War/emancipation, National Defense Highway Act/decline of inner cities, Vietnam War/anti-government activity).	**16.D.5 (US)** Analyze the relationship between an issue in United States social history and the related aspects of political, economic and environmental history.
16.D.3 (W) Identify the origins and analyze consequences of events that have shaped world social history including famines, migrations, plagues, slave trading.	**16.D.4 (W)** Identify significant events and developments since 1500 that altered world social history in ways that persist today including colonization, Protestant Reformation, industrialization, the rise of technology and human rights movements.	**16.D.5 (W)** Analyze the relationship between an issue in world social history and the related aspects of political, economic and environmental history.
16.E.3a (US) Describe how early settlers in Illinois and the United States adapted to, used and changed the environment prior to 1818. **16.E.3b (US)** Describe how the largely rural population of the United States adapted, used and changed the environment after 1818. **16.E.3c (US)** Describe the impact of urbanization and suburbanization, 1850 - present, on the environment.	**16.E.4a (US)** Describe the causes and effects of conservation and environmental movements in the United States, 1900 - present. **16.E.4b (US)** Describe different and sometimes competing views, as substantiated by scientific fact, that people in North America have historically held towards the environment (e.g., private and public land ownership and use, resource use vs. preservation).	**16.E.5a (US)** Analyze positive and negative aspects of human effects on the environment in the United States including damming rivers, fencing prairies and building cities. **16.E.5b (US)** Analyze the relationship between an issue in United States environmental history and the related aspects of political, economic and social history.
16.E.3a (W) Describe how the people of the Huang He, Tigris-Euphrates, Nile and Indus river valleys shaped their environments during the agricultural revolution, 4000 - 1000 BCE. **16.E.3b (W)** Explain how expanded European and Asian contacts affected the environment of both continents, 1000 BCE - 1500 CE.	**16.E.4a (W)** Describe how cultural encounters among peoples of the world (e.g., Colombian exchange, opening of China and Japan to external trade, building of Suez canal) affected the environment, 1500 - present. **16.E.4b (W)** Describe how migration has altered the world's environment since 1450.	**16.E.5a (W)** Analyze how technological and scientific developments have affected human productivity, human comfort and the environment. **16.E.5b (W)** Analyze the relationship between an issue in world environmental history and the related aspects of political, economic and social history.

SOCIAL SCIENCE

STATE GOAL 17: Understand world geography and the effects of geography on society, with an emphasis on the United States.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Locate, describe and explain places, regions and features on the Earth.	**17.A.1a** Identify physical characteristics of places, both local and global (e.g., locations, roads, regions, bodies of water). **17.A.1b** Identify the characteristics and purposes of geographic representations including maps, globes, graphs, photographs, software, digital images and be able to locate specific places using each.	**17.A.2a** Compare the physical characteristics of places including soils, land forms, vegetation, wildlife, climate, natural hazards. **17.A.2b** Use maps and other geographic representations and instruments to gather information about people, places and environments.
B. Analyze and explain characteristics and interactions of the Earth's physical systems.	**17.B.1a** Identify components of the Earth's physical systems. **17.B.1b** Describe physical components of ecosystems.	**17.B.2a** Describe how physical and human processes shape spatial patterns including erosion, agriculture and settlement. **17.B.2b** Explain how physical and living components interact in a variety of ecosystems including desert, prairie, flood plain, forest, tundra.
C. Understand relationships between geographic factors and society.	**17.C.1a** Identify ways people depend on and interact with the physical environment (e.g., farming, fishing, hydroelectric power). **17.C.1b** Identify opportunities and constraints of the physical environment. **17.C.1c** Explain the difference between renewable and nonrenewable resources.	**17.C.2a** Describe how natural events in the physical environment affect human activities. **17.C.2b** Describe the relationships among location of resources, population distribution and economic activities (e.g., transportation, trade, communications). **17.C.2c** Explain how human activity affects the environment.
D. Understand the historical significance of geography.	**17.D.1** Identify changes in geographic characteristics of a local region (e.g., town, community).	**17.D.2a** Describe how physical characteristics of places influence people's perceptions and their roles in the world over time. **17.D.2b** Identify different settlement patterns in Illinois and the United States and relate them to physical features and resources.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

The need for geographic literacy has never been greater or more obvious than in today's tightly interrelated world. Students must understand the world's physical features, how they blend with social systems and how they affect economies, politics and human interaction. Isolated geographic facts are not enough. To grasp geography and its effect on individuals and societies, students must know the broad concepts of spatial patterns, mapping, population and physical systems (land, air, water). The combination of geographic facts and broad concepts provides a deeper understanding of geography and its effects on individuals and societies.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
17.A.3a Explain how people use geographic markers and boundaries to analyze and navigate the Earth (e.g., hemispheres, meridians, continents, bodies of water). **17.A.3b** Explain how to make and use geographic representations to provide and enhance spatial information including maps, graphs, charts, models, aerial photographs, satellite images.	**17.A.4a** Use mental maps of physical features to answer complex geographic questions (e.g., how physical features have deterred or enabled migration). **17.A.4b** Use maps and other geographic instruments and technologies to analyze spatial patterns and distributions on earth.	**17.A.5** Demonstrate how maps, other geographic instruments and technologies are used to solve spatial problems (e.g., land use, ecological concerns).
17.B.3a Explain how physical processes including climate, plate tectonics, erosion, soil formation, water cycle, and circulation patterns in the ocean shape patterns in the environment and influence availability and quality of natural resources. **17.B.3b** Explain how changes in components of an ecosystem affect the system overall.	**17.B.4a** Explain the dynamic interactions within and among the Earth's physical systems including variation, productivity and constructive and destructive processes. **17.B.4b** Analyze trends in world demographics as they relate to physical systems.	**17.B.5** Analyze international issues and problems using ecosystems and physical geography concepts.
17.C.3a Explain how human activity is affected by geographic factors. **17.C.3b** Explain how patterns of resources are used throughout the world. **17.C.3c** Analyze how human processes influence settlement patterns including migration and population growth.	**17.C.4a** Explain the ability of modern technology to alter geographic features and the impacts of these modifications on human activities. **17.C.4b** Analyze growth trends in selected urban areas as they relate to geographic factors. **17.C.4c** Explain how places with various population distributions function as centers of economic activity (e.g., rural, suburban, urban).	**17.C.5a** Compare resource management methods and policies in different regions of the world. **17.C.5b** Describe the impact of human migrations and increased urbanization on ecosystems. **17.C.5c** Describe geographic factors that affect cooperation and conflict among societies.
17.D.3a Explain how and why spatial patterns of settlement change over time. **17.D.3b** Explain how interactions of geographic factors have shaped present conditions.	**17.D.4** Explain how processes of spatial change have affected human history (e.g., resource development and use, natural disasters).	**17.D.5** Analyze the historical development of a current issue involving the interaction of people and geographic factors (e.g., mass transportation, changes in agricultural subsidies, flood control).

STATE GOAL 18: Understand social systems, with an emphasis on the United States.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Compare characteristics of culture as reflected in language, literature, the arts, traditions and institutions.	**18.A.1** Identify folklore from different cultures which became part of the heritage of the United States.	**18.A.2** Explain ways in which language, stories, folk tales, music, media and artistic creations serve as expressions of culture.
B. Understand the roles and interactions of individuals and groups in society.	**18.B.1a** Compare the roles of individuals in group situations (e.g., student, committee member, employee/employer). **18.B.1b** Identify major social institutions in the community.	**18.B.2a** Describe interactions of individuals, groups and institutions in situations drawn from the local community (e.g., local response to state and national reforms). **18.B.2b** Describe the ways in which institutions meet the needs of society.
C. Understand how social systems form and develop over time.	**18.C.1** Describe how individuals interacted within groups to make choices regarding food, clothing and shelter.	**18.C.2** Describe how changes in production (e.g., hunting and gathering, agricultural, industrial) and population caused changes in social systems.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

A study of social systems has two important aspects that help people understand their roles as individuals and members of society. The first aspect is culture consisting of the language, literature, arts and traditions of various groups of people. Students should understand common characteristics of different cultures and explain how cultural contributions shape societies over time. The second aspect is the interaction among individuals, groups and institutions. Students should know how and why groups and institutions are formed, what roles they play in society, and how individuals and groups interact with and influence institutions.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
18.A.3 Explain how language, literature, the arts, architecture and traditions contribute to the development and transmission of culture.	**18.A.4** Analyze the influence of cultural factors including customs, traditions, language, media, art and architecture in developing pluralistic societies.	**18.A.5** Compare ways in which social systems are affected by political, environmental, economic and technological changes.
18.B.3a Analyze how individuals and groups interact with and within institutions (e.g., educational, military). **18.A.3b** Explain how social institutions contribute to the development and transmission of culture.	**18.B.4** Analyze various forms of institutions (e.g., educational, military, charitable, governmental).	**18.B.5** Use methods of social science inquiry (pose questions, collect and analyze data, make and support conclusions with evidence, report findings) to study the development and functions of social systems and report conclusions to a larger audience.
18.C.3a Describe ways in which a diverse U.S. population has developed and maintained common beliefs (e.g., life, liberty and the pursuit of happiness; the Constitution and the Bill of Rights). **18.C.3b** Explain how diverse groups have contributed to U.S. social systems over time.	**18.C.4a** Analyze major cultural exchanges of the past (e.g., Colombian exchange, the Silk Road, the Crusades). **18.C.4b** Analyze major contemporary cultural exchanges as influenced by worldwide communications.	**18.C.5** Analyze how social scientists' interpretations of societies, cultures and institutions change over time.

6C

PHYSICAL DEVELOPMENT AND HEALTH

State Goals: 19-24

PHYSICAL DEVELOPMENT AND HEALTH

The *Illinois Learning Standards for Physical Development and Health* were developed using National Standards for Physical Education, National Health Education Standards, the 1985 State Goals for Physical Development and Health, and other states' standards and local outcomes from Illinois school districts.

As the nation moves forward into the twenty-first century, a tremendous opportunity exists to enhance our health and well-being. Much of that opportunity lies in our ability to address the growing health challenges that are facing children and youth. Although progress is being made, poor physical fitness; violence; lack of proper nutrition; communicable diseases; and alcohol, tobacco and other drug use continue to plague our society and most notably our youth.

Comprehensive physical development and health programs offer great potential for enhancing the capacity of students' minds and bodies. Extensive research connects the ability to learn to good health. Healthy minds and bodies are basic to academic success and, in later life, enhance the ability to contribute to a productive work environment.

The benefits of comprehensive health and physical education include promoting a healthy generation of students who are able to achieve their highest potential, reversing the trend of deteriorating health and physical fitness among youth, and helping to lower the cost of health care in the United States.

The goals and standards for physical development and health foster workplace skills, including identifying short- and long-term goals, utilizing technology, following directions, and working cooperatively with others. Problem solving, communication, responsible decision making, and team-building skills are major emphases as well.

Through comprehensive K-12 physical development and health programs, students will achieve active and healthy lives that will enable them to achieve personal goals and contribute to society.

APPLICATIONS OF LEARNING

Through Applications of Learning, students demonstrate and deepen their understanding of basic knowledge and skills. These applied learning skills cross academic disciplines and reinforce the important learning of the disciplines. The ability to use these skills will greatly influence students' success in school, in the workplace and in the community.

SOLVING PROBLEMS

Recognize and investigate problems; formulate and propose solutions supported by reason and evidence.

Physical activity is a catalyst to problem solving. Students learn how to move quickly and decisively in games, how to deal with their opponents in sports, and how to gain advantage and respond to changing situations. In physical development and health, students also learn how to acquire and understand basic health information, assess such information and address health problems.

COMMUNICATING

Express and interpret information and ideas.

Physical activity and movement can be a medium of communication. Students learn to observe others, listen, act and react—understanding the intentions of others and making their own intentions clear. Students also need to understand written and oral communications ranging from warning labels to medical advertisements and health-related news reports. They should be able to question and analyze information to help them make individual decisions about good health.

USING TECHNOLOGY

Use appropriate instruments, electronic equipment, computers and networks to access information, process ideas and communicate results.

Students monitor fitness and analyze movement skills with monitoring instruments, video and computer software. These tools allow students to keep records, graph progress, create simulations and compare performance to national statistics. On-line services provide added information about health issues and fitness. Technology provides students with tools comparable to those used in the professional fitness and health fields.

WORKING ON TEAMS

Learn and contribute productively as individuals and as members of groups.

Students learn to recognize individual strengths, resolve differences and use teamwork as a necessary tool for working with others. Teamwork is also integral to many sports. Sports in turn teach the elements of teamwork in other fields. One overall goal of physical development is to give students the knowledge and skills necessary for working on teams to achieve specific objectives or a common goal.

MAKING CONNECTIONS

Recognize and apply connections of important information and ideas within and among learning areas.

The quality of students' physical fitness and health is an important factor in their readiness to learn. In addition to creating the physical conditions for learning, the subject areas of physical development and health directly relate to other academic content. For example, mathematics is used for measurement, scoring and statistical recordkeeping in physical activities and sports. Health principles and knowledge provide a basis for academic studies in medicine and environmental science. A knowledge of health issues is necessary to understand important historical events and social organizations studied in social science.

PHYSICAL DEVELOPMENT AND HEALTH

STATE GOAL 19: Acquire movement skills and understand concepts needed to engage in health-enhancing physical activity.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Demonstrate physical competency in individual and team sports, creative movement and leisure and work-related activities.	**19.A.1** Demonstrate control when performing fundamental locomotor, non-locomotor and manipulative skills.	**19.A.2** Demonstrate control when performing combinations and sequences in locomotor, non-locomotor and manipulative motor patterns.
B. Analyze various movement concepts and applications.	**19.B.1** Understand spatial awareness and relationships to objects and people.	**19.B.2** Identify the principles of movement (e.g., absorption and application of force, equilibrium).
C. Demonstrate knowledge of rules, safety and strategies during physical activity.	**19.C.1** Demonstrate safe movement in physical activities.	**19.C.2a** Identify and apply rules and safety procedures in physical activities. **19.C.2b** Identify offensive, defensive and cooperative strategies in selected activities and games.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Physical performance involves competency in a wide range of motor, non-motor and manipulative skills. Learning in this area is developmental, building simple movements into more complex patterns. Learning to follow directions and rules enhances enjoyment and success in both recreational and competitive sports. Working toward higher levels of competence, students learn how to maintain health and fitness as individuals and as members of teams.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
19.A.3 Demonstrate control when performing combinations and sequences of locomotor, non-locomotor and manipulative motor patterns in selected activities, games and sports.	**19.A.4** Perform skills efficiently in a variety of leisure activities, sports, creative movement and work-related activities.	**19.A.5** Demonstrate knowledge and skills in a self-selected individual sport, a team sport, creative movement and work-related activities.
19.B.3 Compare and contrast efficient and inefficient movement patterns.	**19.B.4** Analyze various movement patterns for efficiency and effectiveness.	**19.B.5** Apply the principles of efficient movement to evaluate personal performance.
19.C.3a Apply rules and safety procedures in physical activities. **19.C.3b** Apply basic offensive, defensive and cooperative strategies in selected activities, games and sports.	**19.C.4a** Develop rules and safety procedures for physical activities. **19.C.4b** Select and apply offensive, defensive and cooperative strategies in selected activities, games and sports.	**19.C.5a** Select components (e.g., equipment, boundaries, number of players, rules) which promote participation in novel or original physical activities. **19.C.5b** Analyze and apply complex offensive, defensive and cooperative strategies for selected games and sports.

PHYSICAL DEVELOPMENT AND HEALTH

STATE GOAL 20: Achieve and maintain a health-enhancing level of physical fitness based upon continual self-assessment.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Know and apply the principles and components of health-related fitness.	**20.A.1a** Identify characteristics of health-related fitness (e.g., flexibility, muscular strength). **20.A.1b** Engage in sustained physical activity that causes increased heart rate, muscle strength and range of movement.	**20.A.2a** Describe the benefits of maintaining a health-enhancing level of fitness. **20.A.2b** Regularly participate in physical activity for the purpose of sustaining or improving individual levels of health-related fitness.
B. Assess individual fitness levels.	**20.B.1** Describe immediate effects of physical activity on the body (e.g., faster heartbeat, increased pulse rate, increased breathing rate).	**20.B.2a** Monitor individual heart rate before, during and after physical activity, with and without the use of technology. **20.B.2b** Match recognized assessments of health-related fitness (e.g., AAHPERED, AAU) to corresponding components of fitness.
C. Set goals based on fitness data and develop, implement and monitor an individual fitness improvement plan.	**20.C.1** Identify a realistic health-related goal.	**20.C.2a** Set a personal health-related fitness goal. **20.C.2b** Demonstrate the relationship between movement and health-related fitness components (e.g., running/cardiorespiratory, tug-of-war/strength).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Regular physical activity is necessary to sustain fitness and health. Students need to apply training principles—frequency, intensity, time and type (FITT)—to achieve their personal fitness goals. Fitness expectations need to be established on an individual basis; realistic goals need to be based on the health-related components of endurance, strength, flexibility, cardiorespiratory fitness and body composition. By learning and applying these concepts, students can develop lifelong understanding and good habits for overall health and fitness.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
20.A.3a Identify the principles of training: frequency, intensity, time and type (FITT). **20.A.3b** Identify and participate in activities associated with the components of health-related fitness.	**20.A.4a** Interpret the effects of exercise/physical activity on the level of health-related fitness. **20.A.4b** Participate in various types of fitness training programs (e.g., circuit, cross and interval training) and describe the characteristics and benefits of each.	**20.A.5** Implement an individualized health-related fitness plan which includes the principles of training.
20.B.3a Monitor intensity of exercise through a variety of methods (e.g., perceived exertion, pulse monitors, target heart rate), with and without the use of technology. **20.B.3b** Evaluate the strengths and weaknesses of a personal fitness profile.	**20.B.4a** Record and interpret health-related physiological data (e.g., blood pressure, body mass index, oxygen exchange), with and without the use of technology. **20.B.4b** Prepare an individual health-related fitness profile and evaluate fitness level on each component.	**20.B.5a** Collect and interpret health-related fitness data over a period of time, with and without the use of technology. **20.B.5b** Evaluate the effects of fitness choices and heredity on wellness.
20.C.3a Set realistic short-term and long-term goals for a health-related fitness component. **20.C.3b** Identify opportunities within the community for regular participation in physical activities. **20.C.3c** Apply the principles of training to the health-related fitness goals.	**20.C.4a** Set realistic, short-term, health-related fitness goals based on individual profiles. **20.C.4b** Evaluate physical fitness services, products and advertising. **20.C.4c** Design and implement a personal fitness program.	**20.C.5a** Set realistic, long-term, health-related fitness goals based on an individual profile. **20.C.5b** Understand how aging, illness and injury affect physical activity. **20.C.5c** Use profile data to monitor an individual wellness/fitness plan.

STATE GOAL 21: Develop team-building skills by working with others through physical activity.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Demonstrate individual responsibility during group physical activities.	**21.A.1a** Follow directions and class procedures while participating in physical activities. **21.A.1b** Use identified procedures and safe practices with little or no reinforcement during group physical activities. **21.A.1c** Work independently on tasks for short periods of time.	**21.A.2a** Accept responsibility for their own actions in group physical activities. **21.A.2b** Use identified procedures and safe practices without reminders during group physical activities. **21.A.2c** Work independently on task until completed.
B. Demonstrate cooperative skills during structured group physical activity.	**21.B.1** Work cooperatively with another to accomplish an assigned task.	**21.B.2** Work cooperatively with a partner or small group to reach a shared goal during physical activity.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

As members of teams, students need to fill the role of leader at times and participant at other times. Knowing how to follow procedures, accept leadership from others, participate actively and lead when appropriate will serve the student on and off the playing field. Students need to know the elements of teamwork (communication, decision making, cooperation, leadership) and how to adjust individual needs to team needs. Students also need to be able to recognize each member's contributions, including their own.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
21.A.3a Follow directions and decisions of responsible individuals (e.g., teachers, peer leaders, squad leaders). **21.A.3b** Participate in establishing procedures for group physical activities. **21.A.3c** Remain on task independent of distraction (e.g., peer pressure, environmental stressors).	**21.A.4a** Demonstrate decision-making skills both independently and with others during physical activities. **21.A.4b** Apply identified procedures and safe practices to all group physical activity settings. **21.A.4c** Complete a given task on time.	**21.A.5** Demonstrate individual responsibility through use of various team-building strategies in physical activity settings (e.g., etiquette, fair play, self-officiating, coaching, organizing a group activity).
21.B.3 Work cooperatively with others to accomplish a set goal in both competitive and non-competitive situations (e.g., baseball, choreographing a dance).	**21.B.4** Work cooperatively with others to achieve group goals in competitive and non-competitive situations (e.g., challenge course, orienteering).	**21.B.5** Demonstrate when to lead and when to be supportive to accomplish group goals.

PHYSICAL DEVELOPMENT AND HEALTH

STATE GOAL 22: Understand principles of health promotion and the prevention and treatment of illness and injury.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Explain the basic principles of health promotion, illness prevention and safety.	**22.A.1a** Identify general signs and symptoms of illness (e.g., fever, rashes, coughs, congestion). **22.A.1b** Identify methods of health promotion and illness prevention (e.g., obtaining immunizations, hand washing, brushing and flossing teeth, eating practices, sleep, cleanliness). **22.A.1c** Identify dangerous situations and safety methods to reduce risks (e.g., traffic, improper use of medicine and poisons, strangers).	**22.A.2a** Describe benefits of early detection and treatment of illness. **22.A.2b** Demonstrate strategies for the prevention and reduction of communicable and non-communicable disease (e.g., practicing cleanliness, making healthy food choices, understanding the importance of immunizations and regular health screenings). **22.A.2c** Describe and compare health and safety methods that reduce the risks associated with dangerous situations (e.g., wearing seat belts and helmets, using sunscreen).
B. Describe and explain the factors that influence health among individuals, groups and communities.	**22.B.1** Encourage and support others in making positive health choices (e.g., eating practices, cleanliness, safety practices).	**22.B.2** Describe how individuals and groups influence the health of individuals (e.g., peer pressure, media and advertising).
C. Explain how the environment can affect health.	**22.C.1** Identify sources and causes of environmental health risks (e.g., air, soil, sun, water, noise, food, chemicals).	**22.C.2** Explain interrelationships between the environment and individual health (e.g., pollution and respiratory problems, sun and skin cancer).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Nutrition, exercise, rest, hygiene and safety are the bases for personal, family and occupational health. From an early age, students can recognize healthy habits and understand why they are important. As students become more sophisticated in their understanding, they learn and can adopt a variety of ways to minimize illness and enhance health. Learners will be able to apply the effects of health-related actions to success in the workplace. Students who develop an effective understanding of basic health promotion can establish the foundation for achieving and maintaining personal health and well-being by making informed wellness decisions now and throughout their lives.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
22.A.3a Identify and describe ways to reduce health risks common to adolescents (e.g., exercise, diet, refusal of harmful substances). **22.A.3b** Identify how positive health practices and relevant health care can help reduce health risks (e.g., proper diet and exercise reduce risks of cancer and heart disease). **22.A.3c** Explain routine safety precautions in practical situations (e.g., in motor vehicles, on bicycles, in and near water, as a pedestrian). **22.A.3d** Identify various careers involved in health promotion, health care and injury prevention.	**22.A.4a** Compare and contrast communicable, chronic and degenerative illnesses (e.g., influenza, cancer, arthritis). **22.A.4b** Analyze possible outcomes of effective health promotion and illness prevention (e.g., reduction in stress, improved fitness, lessened likelihood of injury and illness). **22.A.4c** Demonstrate basic procedures in injury prevention and emergency care that can be used in the home, workplace, and community (e.g., first aid, CPR). **22.A.4d** Research and report about a career involved in health promotion, health care and injury prevention.	**22.A.5a** Explain strategies for managing contagious, chronic and degenerative illnesses (e.g., various treatment and support systems). **22.A.5b** Evaluate the effectiveness of health promotion and illness prevention methods using data from actual situations (e.g., impact of worksite health promotion programs). **22.A.5c** Explain how health and safety problems have been altered by technology, media and medicine (e.g., product testing; control of polio; advanced surgical techniques; improved treatments for cancer, diabetes and heart disease; worksite safety management).
22.B.3 Describe how the individual influences the health and well-being of the workplace and the community (e.g., volunteerism, disaster preparedness, proper care to prevent the spread of illness).	**22.B.4** Explain social and economic effects of health problems on individuals and society (e.g., cost of health care, reduction in productivity).	**22.B.5** Analyze how public health policies, laws and the media function to prevent and control illness (e.g., product and food labeling, food safety and handling, school immunizations).
22.C.3a Identify potential environmental conditions that may affect the health of the local community (e.g., pollution, land fill, lead-based paint). **22.C.3b** Develop potential solutions to address environmental problems that affect the local community's health.	**22.C.4** Analyze how environmental conditions can affect health on a large scale (e.g., acid rain, oil spills, solid waste contamination, nuclear leaks, ozone depletion).	**22.C.5** Compare and contrast how individuals, communities and states prevent and correct health-threatening environmental problems (e.g., recycling, banning leaf burning, restaurant inspections, OSHA standards in the workplace).

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PHYSICAL DEVELOPMENT AND HEALTH

STATE GOAL 23. Understand human body systems and factors that influence growth and development.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Describe and explain the structure and functions of the human body systems and how they interrelate.	**23.A.1** Identify basic parts of body systems and their functions (e.g., heart, lungs, eyes).	**23.A.2** Identify basic body systems and their functions (e.g., circulatory, respiratory, nervous).
B. Explain the effects of health-related actions on the body systems.	**23.B.1** Identify healthy actions that influence the functions of the body (e.g., cleanliness, proper diet, exercise).	**23.B.2** Differentiate between positive and negative effects of health-related actions on body systems (e.g., drug use, exercise, diet).
C. Describe factors that affect growth and development.	**23.C.1** Identify individual differences in growth and development among people.	**23.C.2a** Identify physical, mental, social and cultural factors affecting growth and development of children (e.g., nutrition, self-esteem, family and illness). **23.C.2b** Identify stages in growth and development (e.g., stages in the life cycle from infancy to old age).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

To achieve healthful individual development, students need to understand human anatomy and physiology, nutrition, stages of growth and development, avoidance of harmful actions and the characteristics of good health habits. Early learners begin with basic recognition of body systems and growth stages. As students progress, they understand how systems work together and how individual actions affect health. As they themselves grow and develop, students can learn to enhance the process throughout their school years and later life.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
23.A.3 Explain how body systems interact with each other (e.g., blood transporting nutrients from the digestive system and oxygen from the respiratory system).	**23.A.4** Explain how body system functions can be maintained and improved (e.g., exercise, nutrition, safety).	**[BLANK]**
23.B.3 Explain the effects of health-related actions upon body systems (e.g., fad diets, orthodontics, avoiding smoking, alcohol use and other drug use).	**23.B.4** Explain immediate and long-term effects of health habits on the body systems (e.g., diet/heart disease, exercise/fat reduction, stress management/emotional health).	**23.B.5** Understand the effects of healthy living on individuals and their future generations (e.g., not using alcohol, tobacco, and other drugs during pregnancy).
23.C.3 Describe the relationships among physical, mental and social health factors during adolescence (e.g., the effects of stress on physical and mental performance, effects of nutrition on growth).	**23.C.4** Describe changes in physical health and body functions at various stages of the life cycle.	**23.C.5** Explain how the aging process affects body systems (e.g., vision, hearing, immune system).

STATE GOAL 24: Promote and enhance health and well-being through the use of effective communication and decision-making skills.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Demonstrate procedures for communicating in positive ways, resolving differences and preventing conflict.	**24.A.1a** Differentiate between positive and negative behaviors (e.g., waiting your turn vs. pushing in line, honesty vs. lying). **24.A.1b** Identify positive verbal and nonverbal communication skills (e.g., body language, manners, listening).	**24.A.2a** Identify causes and consequences of conflict among youth. **24.A.2b** Demonstrate positive verbal and nonverbal communication skills (e.g., polite conversation, attentive listening, body language).
B. Apply decision-making skills related to the protection and promotion of individual health.	**24.B.1** Recognize how choices can affect health (e.g., not brushing/tooth decay, smoking/risk of cancer and heart disease).	**24.B.2** Describe key elements of a decision-making process.
C. Demonstrate skills essential to enhancing health and avoiding dangerous situations.	**24.C.1** Demonstrate basic refusal skills (e.g., "Just Say No", "Stranger Danger").	**24.C.2** Describe situations where refusal skills are necessary (e.g., pressure to smoke, use alcohol and other drugs, join gangs; physical abuse and exploitation).

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

From an early age, students need to know how to communicate their health needs and learn to take responsibility for their own health. They also need to know how and why personal decisions can affect their own health and well-being. Consideration for the needs of others becomes part of health promotion as well. Students who can clearly identify and communicate about health-related issues—and can make healthful personal decisions—will benefit as they grow and mature in school and into responsible workers and citizens.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
24.A.3a Describe possible causes and consequences of conflict and violence among youth in schools and communities. **24.A.3b** Demonstrate methods for addressing interpersonal differences without harm (e.g., avoidance, compromise, cooperation). **24.A.3c** Explain how positive communication helps to build and maintain relationships at school, at home and in the workplace.	**24.A.4a** Describe the effects (e.g., economic losses, threats to personal safety) of conflict and violence upon the health of individuals, families and communities. **24.A.4b** Formulate strategies to prevent conflict and resolve differences.	**24.A.5** Compare and contrast strategies to prevent conflict and resolve differences.
24.B.3 Apply a decision-making process to an individual health concern.	**24.B.4** Explain how decision making affects the achievement of individual health goals.	**24.B.5** Explain immediate and long-term impacts of health decisions to the individual, family and community.
24.C.3 Apply refusal and negotiation skills to potentially harmful situations.	**24.C.4** Formulate a plan to achieve individual health goals.	**24.C.5** Evaluate progress toward the attainment of a health goal.

FINE ARTS

State Goals: 25-27

FINE ARTS

The *Illinois Learning Standards for Fine Arts* were developed using the National Standards for Arts Education, 1985 State Goals for Fine Arts, various other national and state resources, and local standards contributed by team members.

Throughout time, the arts have been essential to human existence. When people create in sounds, images, gestures and words, they discover ways to shape and share their thoughts and feelings with others. The arts enrich the quality of life. All students deserve access to the arts through creation, performance and study.

Young children "respond to gestures and movement before they react to the spoken word. They understand and explore sound before they learn to speak. They draw pictures before they form letters. They dance and act out stories before they learn to read" (Fowler, 1984). The fine arts—dance, drama, music, and visual arts—are fundamental ways of knowing and thinking. In addition to their intrinsic value, the arts contribute to children's development. Recent research shows that study in music improves test scores in spatial temporal reasoning in young children (Rauscher, 1997).

Works of art are some of the highest achievements of civilization. In school, students learn the language of the arts and how to interpret visual images, sounds, movement and story. Because the arts are both universal and culturally specific, they are a powerful means of increasing international and intercultural awareness. Through the arts, students gain a greater understanding of their own cultural heritage, as well as a sense of the larger world community.

The Illinois Learning Standards in the Fine Arts address the language of the fine arts, sensory elements, organizational principles and expressive qualities and how the arts are similar, different or related to each other. Students also learn about production and performance in the arts and the role of the arts in civilization. When students study the arts they become informed audience members and informed consumers of the popular culture including electronic media. The standards in fine arts define a comprehensive arts education and reflect a commitment to a quality education for every Illinois school child.

APPLICATIONS OF LEARNING

Through Applications of Learning, students demonstrate and deepen their understanding of basic knowledge and skills. These applied learning skills cross academic disciplines and reinforce the important learning of the disciplines. The ability to use these skills will greatly influence students' success in school, in the workplace and in the community.

SOLVING PROBLEMS

Recognize and investigate problems; formulate and propose solutions supported by reason and evidence.

Problem solving is integral to the arts—providing students the opportunity to innovate and seek original solutions to open-ended problems. Multiple solutions are constructed using various sensory modes, traditional and electronic media and tools, and individual and group experiences. Students learn the relationships between processes and end products; they learn to communicate ideas, themes and meaning through solving problems in their art work.

COMMUNICATING

Express and interpret information and ideas.

The arts are forms of communication extending beyond reading, writing, listening and speaking. Communicating in the fine arts means learning to translate ideas through dance, drama, music and visual arts. Students also participate in the communication process as receivers– observing, analyzing, evaluating, critiquing and interacting.

USING TECHNOLOGY

Use appropriate instruments, electronic equipment, computers and networks to access information, process ideas and communicate results.

Computers, synthesizers, film and video provide opportunities to create and record sound composition, animated images, montages and other works. These experiences can lead to careers in areas such as music, graphic arts, video and film production, scene design and choreography. Technology (CD-ROM, slides, film, video, laserdisk, on-line services) also can link the classroom with the work of renowned artists and performers.

WORKING ON TEAMS

Learn and contribute productively as individuals and as members of groups.

Individual creativity and inspiration are at the heart of the arts, but so are collaboration and group dynamics. Teamwork activities include planning dramatic scenes, developing choreography, creating group murals and performing music in ensembles. These activities give students experience in communicating ideas, considering the ideas of others and reaching consensus.

MAKING CONNECTIONS

Recognize and apply connections of important information and ideas within and among learning areas.

Through the arts, students observe how dance, drama, music and visual art reflect history, society and everyday life. They see links between the individual and society in the creation and understanding of works of art. The arts relate to and reinforce other learning areas—for example, dance and the language arts (action relating to words and poetry), drama and social science (theatre conveying history and culture), music and mathematics (note duration expressed in fractions), and visual arts and science (color influencing the thermodynamics).

STATE GOAL 25: Know the language of the arts.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Understand the sensory elements, organizational principles and expressive qualities of the arts.	**25.A.1a Dance:** Identify the elements of personal and shared space, direction in space, quick and slow speed, firm and fine force; the principles of AB choreographic form and sequence; and the expressive qualities of mood and emotion. **25.A.1b Drama:** Understand the elements of acting, locomotor and nonlocomotor movement, vocal and nonvocal sound, story making; the principles of plot, character, setting, problem/resolution and message; and the expressive characteristics of simple emotions. **25.A.1c Music:** Identify differences in elements and expressive qualities (e.g., between fast and slow tempo; loud and soft dynamics; high and low pitch/direction; long and short duration; same and different form, tone color or timbre, and beat). **25.A.1d Visual Arts:** Identify the elements of line, shape, space, color and texture; the principles of repetition and pattern; and the expressive qualities of mood, emotion and pictorial representation.	**25.A.2a Dance:** Identify and describe the elements of pathways, level, focus, range in space, sustained and percussive qualities of speed; the principles of ABA and round choreographic form, contrast and repetition; and the expressive qualities of mood and emotion. **25.A.2b Drama:** Understand the elements of acting, scripting, speaking, improvising, physical movement, gesture, and picturization (shape, line, and level); the principles of conflict/resolution and theme; and the expressive characteristics of mood and dynamics. **25.A.2c Music:** Identify elements and expressive qualities such as tone color, harmony, melody, form (rondo, theme and variation), rhythm/meter and dynamics in a variety of musical styles. **25.A.2d Visual Arts:** Identify and describe the elements of 2- and 3-dimensional space, figure ground, value and form; the principles of rhythm, size, proportion and composition; and the expressive qualities of symbol and story.
B. Understand the similarities, distinctions and connections in and among the arts.	**25.B.1** Identify similarities in and among the arts (e.g., pattern, sequence and mood).	**25.B.2** Understand how elements and principles combine within an art form to express ideas.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Through observation, discussion, interpretation and analysis, students learn the "language" of the arts. They learn to understand how others express ideas in dance, drama, music and visual art forms. In addition to acquiring knowledge essential to performance and production, students become arts consumers (e.g., attending live performances or movies, purchasing paintings or jewelry, or visiting museums) who understand the basic elements and principles underlying artworks and are able to critique them.

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
25.A.3a Dance: Describe how elements are combined and contrasted; identify the principles of transition, variety and balance; and the expressive qualities of movement. **25.A.3b Drama:** Understand how the elements of acting, directing, playwriting and designing combine with the principles of tension, rhythm, pattern, unity, balance, repetition and idea to communicate. **25.A.3c Music:** Identify and describe changes in elements and expressive qualities (e.g., crescendo, ritardando, fermata, meter, sforzando). **25.A.3d Visual Arts:** Identify and describe the elements of value, perspective and color schemes; the principles of contrast, emphasis and unity; and the expressive qualities of thematic development and sequence. **25.A.3e Visual Arts:** Analyze how the elements and principles can be organized to convey meaning through a variety of media and technology.	**25.A.4** Analyze and evaluate the effective use of elements, principles and expressive qualities in a composition/performance in dance, drama, music and visual arts.	**25.A.5** Analyze and evaluate student and professional works for how aesthetic qualities are used to convey intent, expressive ideas and/or meaning.
25.B.3 Compare and contrast the elements and principles in two or more art works that share similar themes.	**25.B.4** Analyze and evaluate similar and distinctive characteristics of works in two or more of the arts that share the same historical period or societal context.	**25.B.5** Understand how different art forms combine to create an interdisciplinary work (e.g., musical theatre, opera or cinematography).

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STATE GOAL 26: Through creating and performing, understand how works of art are produced.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Understand processes, traditional tools and modern technologies used in the arts.	**26.A.1a Dance:** Understand that the body is the primary tool of dance and identify secondary tools (e.g., pictures, visual aids, words, props and recordings). **26.A.1b Drama:** Understand the tools of body, mind, voice and simple visual/aural media and the processes of planning, practicing and collaborating used to create or perform drama/theatre. **26.A.1c Music:** Identify a variety of sounds and sound sources (e.g., instruments, voices and environmental sounds). **26.A.1d Music:** Relate symbol systems (e.g., icons, syllables, numbers and letters) to musical sounds. **26.A.1e Visual Arts:** Identify media and tools and how to use them in a safe and responsible manner when painting, drawing and constructing.	**26.A.2a Dance:** Describe processes (e.g., conditioning, practicing) used to prepare the body as a tool of dance and how visual aids, stories, poetry, props, music and technology are used for performance of dance. **26.A.2b Drama:** Describe various ways the body, mind and voice are used with acting, scripting and staging processes to create or perform drama/theatre. **26.A.2c Music:** Classify musical sound sources into groups (e.g., instrumental families, vocal ranges, solo/ensembles). **26.A.2d Music:** Read and interpret the traditional music notation of note values and letter names. **26.A.2e Visual Arts:** Describe the relationships among media, tools/technology and processes. **26.A.2f Visual Arts:** Understand the artistic processes of printmaking, weaving, photography and sculpture.
B. Apply skills and knowledge necessary to create and perform in one or more of the arts.	**26.B.1a Dance:** Perform basic locomotor, non-locomotor movements and traditional dance forms and create simple dance sequences. **26.B.1b Drama:** Demonstrate individual skills (e.g., vocalizing, listening, moving, observing, concentrating) and group skills (e.g., decision making, planning, practicing, spacing) necessary to create or perform story elements and characterizations. **26.B.1c Music:** Sing or play on classroom instruments a variety of music representing diverse cultures and styles. **26.B.1d Visual Arts:** Demonstrate knowledge and skills to create visual works of art using manipulation, eye-hand coordination, building and imagination.	**26.B.2a Dance:** Demonstrate control, coordination, balance, elevation and accuracy in rhythmic response and awareness of choreographic form. **26.B.2b Drama:** Demonstrate actions, characters, narrative skills, collaboration, environments, simple staging and sequence of events and situations in solo and ensemble dramas. **26.B.2c Music:** Sing or play acoustic or electronic instruments demonstrating technical skill. **26.B.2d Visual Arts:** Demonstrate knowledge and skills to create works of visual art using problem solving, observing, designing, sketching and constructing.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Students acquire skills to produce and perform dance, drama, music and visual art. They learn to use media, tools and technologies. They learn to shape ideas and emotions into sounds, images and actions. As students create and perform their own artworks and review the works of others, they become more imaginative, strengthen their problem-solving skills and learn to respond to the creativity of others. Creating and performing are at the core of the fine arts. Students also learn about the role of the artist (e.g., dancer, painter, actor, director, scriptwriter, musician).

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
26.A.3a Dance: Describe how body actions, types of accompaniment, lighting, costuming and processes (e.g., reordering and refining) influence the expressive qualities of dance. **26.A.3b Drama:** Describe the use of the primary tools (body, mind and voice) and the support tools (costumes, scenery, props, lights, make-up, sound) to convey an idea through acting, playwriting and designing a drama or theatre activity. **26.A.3c Music:** Describe the processes involved in composing, conducting and performing. **26.A.3d Music:** Read and interpret traditional music notation in a varied repertoire. **26.A.3e Visual Arts:** Describe how the choices of tools/technologies and processes are used to create specific effects in the arts.	**26.A.4a Dance:** Analyze how resources, technologies and processes are combined to express meaning in dance and evaluate expressive content, stylistic differences and aspects of production. **26.A.4b Drama:** Understand how the primary tools, support tools and creative processes (researching, auditioning, designing, directing, rehearsing, refining, presenting) interact and shape drama, theatre and film production. **26.A.4c Music:** Analyze ways in which musical sounds are produced and how they are used in composing, conducting and performing. **26.A.4d Music:** Demonstrate the ability to read written notation for a vocal or instrumental part. **26.A.4e Visual Arts:** Analyze and evaluate how tools/technologies and processes combine to convey meaning.	**26.A.5 Common for all four arts:** Analyze and evaluate how the choice of media, tools, technologies and processes support and influence the communication of ideas.
26.B.3a Dance: Demonstrate body alignment; movement from center; awareness of accent, meter and phrasing; and step patterns from different dance styles and forms. **26.B.3b Drama:** Demonstrate storytelling, improvising and memorizing scripted material supported by simple aural and visual effects and personal background knowledge needed to create and perform in drama/theatre. **26.B.3c Music:** Sing or play with expression and accuracy a variety of music representing diverse cultures and styles. **26.B.3d Visual Arts:** Demonstrate knowledge and skills to create 2- and 3-dimensional works and time arts (e.g., film, animation, video) that are realistic, abstract, functional and decorative.	**26.B.4a Dance:** Create and perform a composition communicating clear and focused ideas based on planning, research and complex problem solving related to specific guidelines. **26.B.4b Drama:** Create and perform an ensemble drama or theatre scene using research, collaboration, characterization and staging in combination with aural and visual technologies (e.g., video, lights, sets, costumes, make-up, sound, props). **26.B.4c Music:** Create and perform music of challenging complexity and length with expression. **26.B.4d Visual Arts:** Demonstrate knowledge and skills that communicate clear and focused ideas based on planning, research and problem solving.	**26.B.5 Common for all four arts:** Create and perform a complex work of art using a variety of techniques, technologies and resources and independent decision making.

STATE GOAL 27: Understand the role of the arts in civilizations, past and present.

As a result of their schooling students will be able to:

LEARNING STANDARD	EARLY ELEMENTARY	LATE ELEMENTARY
A. Analyze how the arts function in history, society and everyday life.	**27.A.1a** Identify the distinctive roles of artists and audiences. **27.A.1b** Identify how the arts contribute to communication, celebrations, occupations and recreation.	**27.A.2a** Identify and describe the relationship between the arts and various environments (e.g., home, school, workplace, theatre, gallery). **27.A.2b** Describe how the arts function in commercial applications (e.g., mass media and product design).
B. Understand how the arts shape and reflect history, society and everyday life.	**27.B.1** Know how images, sounds and movement convey stories about people, places and times.	**27.B.2** Identify and describe how the arts communicate the similarities and differences among various people, places and times.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

The arts are a record of civilizations, past and present. Artists are influenced by—and influence—the times and places in which they live and work. As students learn through the arts about people and civilizations, they learn about others and themselves. Also, students learn about careers related to this goal (e.g., animator, curator, art historian, sound technician).

MIDDLE/JUNIOR HIGH SCHOOL	EARLY HIGH SCHOOL	LATE HIGH SCHOOL
27.A.3a Identify and describe careers and jobs in and among the arts and how they contribute to the world of work. **27.A.3b** Compare and contrast how the arts function in ceremony, technology, politics, communication and entertainment.	**27.A.4a** Evaluate how consumer trends in the arts affect the types and styles of art products. **27.A.4b** Analyze how the arts are used to inform and persuade through traditional and contemporary art forms.	**27.A.5** Analyze how careers in the arts are expanding based on new technologies and societal changes.
27.B.3 Know and describe how artists and their works shape culture and increase understanding of societies, past and present.	**27.B.4a** Analyze and classify the distinguishing characteristics of historical and contemporary art works by style, period and culture. **27.B.4b** Understand how the arts change in response to changes in society.	**27.B.5** Analyze how the arts shape and reflect ideas, issues or themes in a particular culture or historical period.

FOREIGN LANGUAGES

State Goals: 28-30

FOREIGN LANGUAGES

The benefits of effective foreign language instruction focus on the role of the individual in a multilingual, global society. No longer do Americans live in isolation; instead, there is an ever-changing, interdependent world in which diverse cultural and linguistic groups converge. The National Standards for Foreign Language Learning establish the academic, business, personal, recreational and practical benefits of studying foreign languages, and the *Illinois Learning Standards for Foreign Languages* are based on this rationale. The national document states: "To study another language and culture gives one the powerful key to successful communication: *knowing how, when, and why to say what to whom.* All the linguistic and social knowledge required for effective human-to-human interaction is encompassed in those ten words. . . . The approach to second language instruction found in today's schools is designed to facilitate genuine interaction with others, whether they are on another continent, across town, or within the neighborhood."

Research studies clearly indicate that studying another language may give students the "edge" needed to succeed at higher levels in some other subjects. A study of over 17,000 students applying for college admission revealed that "students who had completed a foreign language course in high school tended to have higher scores on the ACT exams in English and math *regardless of their ability level*" (Olsen & Brown 1992). It has also been verified that "high school foreign language students perform significantly better on the SAT verbal exam than non-foreign-language students, and that SAT verbal scores increase successively with each half year of foreign language study" (*National Standards*).

It is important to consider the special character of the classical languages, Latin and ancient Greek. Although orality may be one common component of instruction in these languages, the main thrust of the curriculum is the comprehension of written language rather than fluency in speaking. This fact must be considered when applying the standards to the classical languages and learning benchmarks found within this document. In addition to reading and writing skills, a social-cultural-historical emphasis may also be an important curricular goal in the classical language classroom.

The standards included in this document are intended to be generic and are not written for any one specific language. Since all languages have differing vocabulary, syntactic structures, sound systems, writing systems and cultures, they offer a different set of greater and lesser challenges to English-speaking students. As a result, users of this document should apply necessary modifications to make them applicable to a specific language.

The five stages are designed to correspond to the students' expected level of progress as they study the language. The Stage One (Beginning) benchmarks need to be mastered first regardless of whether the study begins in elementary school, middle school or high school, with mastery of the other stages following in sequence. In short-term programs (e.g., current 2 - 4 year programs) students may not be able to achieve mastery of the more advanced stages.

APPLICATIONS OF LEARNING

Through Applications of Learning, students demonstrate and deepen their understanding of basic knowledge and skills. These applied learning skills cross academic disciplines and reinforce the important learning of the disciplines. The ability to use these skills will greatly influence students' success in school, in the workplace and in the community.

SOLVING PROBLEMS

Recognize and investigate problems; formulate and propose solutions supported by reason and evidence.

Learning a foreign language develops the tools for dealing with various types of survival challenges, technical skills and interpersonal exchanges across and among cultures. Students use the process of forming a hypothesis, testing that hypothesis, eliminating nonessential information and drawing conclusions, aided by and further developing the four skills which are at the core of communication: listening, speaking, reading and writing. Knowledge of other cultures and world issues helps students temper their communication about the problems they endeavor to solve.

COMMUNICATING

Express and interpret information and ideas.

The four basic skills essential for oral and written communication are enhanced by an understanding of non-verbal gestures, cultural symbols and rituals, global trends, regional varieties of language, and local traditions and contexts. For students of language to contribute to society, they must learn the academic, technical and workplace uses of language and how those realms of knowledge relate to other fields of study. Students learn to communicate for a complete range of purposes including personal, school-based, community, vocational, recreational and professional. In modern languages, curricular designs reflect the importance of students developing simultaneously all four communication skills—listening, speaking, reading and writing.

USING TECHNOLOGY

Use appropriate instruments, electronic equipment, computers and networks to access information, process ideas and communicate results.

Students of foreign languages benefit from access to a wide range of technology helpful in locating primary sources in the target language and interacting directly with native speakers. Students reinforce their knowledge of software, technical skills and vocabulary as they use this technology both within and beyond the foreign language classroom. The use of technology in the foreign language curriculum adds a powerful tool for lifelong learning, advanced research, recreational activities and understanding of global issues.

WORKING ON TEAMS

Learn and contribute productively as individuals and as members of groups.

Group learning activities at the core of foreign language learning are one component of actual communication in the target language. Students using the target language to engage in group discussions and research projects are already communicating within the classroom. Group learning activities also reflect contexts and processes outside the classroom. For example, students involved in a debate may cover the same issues as presented in a court of law during the French Revolution. Students preparing a group presentation on the Amazon rainforest may cover the same problems as a group of Brazilian engineers and scientists.

MAKING CONNECTIONS

Recognize and apply connections of important information and ideas within and among learning areas.

Students of foreign languages make four types of connections throughout their study. First, they learn how to transfer skills and content of the foreign language in ways to better understand skills and content of the first language. Second, students make subject-matter connections, reinforcing content and skills of other areas such as science and fine arts. Third, students explore issues and themes which cross disciplinary lines, and fourth, students use the target language for making connections to vocabulary and processes important in the world of work, in community service, and for recreational purposes.

FOREIGN LANGUAGES

STATE GOAL 28: Use the target language to communicate within and beyond the classroom setting.

As a result of their schooling students will be able to:

LEARNING STANDARD	STAGE ONE BEGINNING	STAGE TWO BEGINNING INTERMEDIATE
A. Understand oral communication in the target language.	**28.A.1a** Recognize basic language patterns (e.g., forms of address, questions, case). **28.A.1b** Respond appropriately to simple commands in the target language.	**28.A.2a** Comprehend illustrated stories, audio-visual programs or websites. **28.A.2b** Follow instructions in the target language, given one step at a time, for a wide range of activities.
B. Interact in the target language in various settings.	**28.B.1a** Respond to and ask simple questions with prompts. **28.B.1b** Imitate pronunciation, intonation and inflection including sounds unique to the target language.	**28.B.2a** Pose questions spontaneously in structured situations. **28.B.2b** Produce language using proper pronunciation, intonation and inflection. **28.B.2c** Comprehend gestures and body language often used in everyday interaction in the target language.
C. Understand written passages in the target language.	**28.C.1a** Recognize the written form of familiar spoken language and predict meaning of key words in a simple story, poem or song. **28.C.1b** Infer meaning of cognates from context.	**28.C.2a** Comprehend written classroom directions, read simple passages, infer meaning of cognates and recognize loan words. **28.C.2b** Decode new vocabulary using contextual clues and drawing on words and phrases from prior lessons.
D. Use the target language to present information, concepts and ideas for a variety of purposes to different audiences.	**28.D.1a** Copy/write words, phrases and simple sentences. **28.D.1b** Describe people, activities and objects from school and home.	**28.D.2a** Write on familiar topics using appropriate grammar, punctuation and capitalization. **28.D.2b** Present a simple written or oral report on familiar topics. **28.D.2c** Present an original production (e.g., TV commercials, ads, skits, songs) using known vocabulary and grammatical structures.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

At the core of foreign language learning is mastery of the four basic communication skills: listening, speaking, reading and writing. In modern languages, the ultimate goal is to attain the ability and confidence necessary to interact with fluency in oral and written contexts with native speakers. This communication may occur both in person and through technology. This interaction in the target language is central to all curriculum and instruction in the modern languages. On the other hand, in classical languages, the goal is to focus more on linguistic structures and textual studies with much less emphasis on oral communication.

STAGE THREE INTERMEDIATE	STAGE FOUR ADVANCED INTERMEDIATE	STAGE FIVE ADVANCED
28.A.3a Comprehend main messages of simple oral and audio presentations with assistance from resources (e.g., glossaries, guided questions, outlines). **28.A.3b** Follow instructions in the target language as given in multistep segments for assignments and activities in and out of the classroom.	**28.A.4** Comprehend details of oral and audio presentations unsupported by visual aids.	**28.A.5** Comprehend a variety of oral and audio presentations in academic, technical, social or work environments.
28.B.3a Respond to open-ended questions and initiate communication in various situations. **28.B.3b** Produce language with improved pronunciation, intonation and inflection. **28.B.3c** Use appropriate non-verbal cues common in areas where the target language is spoken.	**28.B.4a** Engage in extended conversations in a variety of situations. **28.B.4b** Express differences of meaning using proper pronunciation, intonation and inflection. **28.B.4c** Recognize and use nonverbal cues in various formal and informal settings.	**28.B.5a** Discuss and defend a position on an issue in a discussion. **28.B.5b** Approximate native-like pronunciation, intonation and inflection.
28.C.3a Comprehend the main message of a variety of written materials with the help of resources (e.g., dictionary, thesaurus, software, Internet, e-mail) to expand vocabulary. **28.C.3b** Compare word use, phrasing and sentence structures of the target language with those used in one or more other languages.	**28.C.4a** Comprehend key vocabulary as well as the main message of complex written materials without the help of visuals. **28.C.4b** Demonstrate understanding of written materials by organizing information and concepts (e.g., outlines, flow charts). **28.C.4c** Compare the target language with one or more languages in terms of vocabulary, word use, phrase and sentence structure and complete text structures.	**28.C.5a** Comprehend, with little or no support, a variety of materials intended for native speakers in academic, social and work situations. **28.C.5b** Distinguish nuances of meaning in a variety of contexts (e.g., layers of meaning in poetry and prose). **28.C.5c** Explain how various languages are interrelated in terms of word origin and text structures.
28.D.3a Write compositions and reports with a specific focus, supporting details, logical sequence and conclusion. **28.D.3b** Present findings from research on unfamiliar topics (e.g., the Roman army, the French chateaux, origins of chocolate). **28.D.3c** Present a simple, original poem or story based on a model.	**28.D.4a** Write complete expository pieces that include description, definition and analysis for a variety of situations. **28.D.4b** Make a persuasive presentation with documentation (e.g., visuals, interviews, quotes) from target language sources. **28.D.4c** Present a short original piece (e.g., essay, story, poem) on a given theme with some guidelines.	**28.D.5a** Write documents in a variety of forms with supporting evidence from electronic and print sources to meet academic, social and work needs. **28.D.5b** Make impromptu presentations in a variety of academic, social and work situations. **28.D.5c** Present an original piece (e.g., essay, story, poem) on a theme of their choice with minimal guidance.

STATE GOAL 29: Use the target language to develop an understanding of the customs, arts, literature, history and geography associated with the target language.

As a result of their schooling students will be able to:

LEARNING STANDARD	STAGE ONE BEGINNING	STAGE TWO BEGINNING INTERMEDIATE
A. Understand manners and customs of various target language societies.	**29.A.1** Use common forms of courtesy, greetings and leave-takings appropriate to the time of day and relationship (adult, peer, parent).	**29.A.2** Demonstrate activities (e.g., games, songs and role playing) associated with the target language.
B. Understand music, dance, folk art, visual art, drama and architecture related to the target language societies.	**29.B.1a** Identify one or more art forms (e.g., Japanese origami, Spanish flamenco) representative of areas where the target language is spoken. **29.B.1b** Demonstrate one or more art forms representative of areas where the target language is spoken (e.g., dramatizing a sample of children's literature, performing a song or dance).	**29.B.2a** Identify sample art works and their creators associated with areas where the target language is spoken. **29.B.2b** Describe selected art forms of areas where the target language is spoken using arts vocabulary from the target language.
C. Understand literature and various media of target language societies.	**29.C.1a** Identify main characters, settings and events from selected samples of children's literature using audio and visual cues. **29.C.1b** Identify different types of literature (e.g., poetry, short stories, plays, legends) in the target language. **29.C.1c** Identify primary media sources (e.g., television, radio, CD/ROM, software, films, on-line resources, websites, periodicals) in the target language.	**29.C.2a** Read, retell and summarize selected literary works. **29.C.2b** Identify sample literary works and their authors representative of the target language. **29.C.2c** Summarize the main points of selected media presentations in the target language.
D. Understand history of areas where the target language is spoken.	**29.D.1** Recognize important people and events (e.g., special celebrations) in the history of areas where the target language is spoken.	**29.D.2** Use simple history vocabulary to identify historical concepts and trends (e.g., rise and fall of the Roman Empire, French Revolution).
E. Understand geography of various target language societies.	**29.E.1** Identify and use simple geography vocabulary (e.g., border, city, river, soil, equator) of the target language.	**29.E.2** Use maps, charts, digital images, graphs and other geographic representations to describe and discuss the countries where the target language is spoken.

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Understanding culture is integral to learning and understanding a language. This goal emphasizes not only the process of learning about the country and its culture, but also the fact that language and culture are inseparable. Through a range of materials in print and other media, students gain a richer understanding of both culture and language. Culture consists mainly of language, literature, fine arts, media, history and geography related to various peoples in the world. Students need to develop an understanding of how customs and traditions are shaped by speakers of language and how that language reflects those customs and traditions.

STAGE THREE INTERMEDIATE	STAGE FOUR ADVANCED INTERMEDIATE	STAGE FIVE ADVANCED
29.A.3 Demonstrate selected customs, manners and traditions in societies associated with the target language.	**29.A.4** Demonstrate target language expressions and levels of formality (e.g., age, social status) appropriate for entry-level work and social situations.	**29.A.5** Analyze and interpret manners and customs within the social, academic and work environments of selected target language societies.
29.B.3a Identify and explain ideas and themes expressed in selected works of art associated with target language societies using terms from the target language. **29.B.3b** Understand and use the essential target language vocabulary referring to tools, processes and products in one or more of the art forms.	**29.B.4a** Compare themes that are inherent to areas where the target language is spoken as expressed in different art forms. **29.B.4b** Compare and contrast selected art forms of areas where the target language is spoken.	**29.B.5a** Explain the cultural and historical significance of characteristic art forms of a target language society. **29.B.5b** Create an interpretive presentation of a selected art form based on research or a field experience.
29.C.3a Read, discuss and write about themes and settings of selected materials in the target language with assistance of glossaries, guided questions or outlines. **29.C.3b** Read, discuss and write about plot and form of selected literary works as illustrated in comic books, youth literature and abridgments in the target language using target language vocabulary. **29.C.3c** Create simple print and/or non-print media messages in the target language modeled on media examples (e.g., advertisements, posters, television, radio, brochures, websites).	**29.C.4a** Compare and contrast the characters, setting, themes and plot of two or more literary works. **29.C.4b** Describe characteristics, origins and authors of various literary forms using target language vocabulary. **29.C.4c** Comprehend main ideas from target language media in relation to everyday life.	**29.C.5a** Compare and analyze literary themes, styles and perspectives across authors and genres. **29.C.5b** Explain the influence of historical context on form, style and point of view for a variety of literary works. **29.C.5c** Compare topics, types and styles of media communication in areas where the target language is spoken.
29.D.3 Identify key historical figures (e.g., scientists, mathematicians, inventors, business leaders) and events associated with areas where the target language is spoken and explain their influence.	**29.D.4** Compare and contrast the influences of historical figures and events and their impact on the development of their countries.	**29.D.5** Analyze different perspectives of historical events using a variety of media and technology tools.
29.E.3 Describe geographical aspects (e.g., population distribution, natural resources and main economic activities) of areas where the target language is spoken.	**29.E.4** Compare a target country with the United States using geographic representations to illustrate and explain their economic nature.	**29.E.5** Describe how migration, settlement and colonization have affected the economy and environment of country(ies) where the target language is spoken.

FOREIGN LANGUAGES

STATE GOAL 30: Use the target language to make connections and reinforce knowledge and skills across academic, vocational and technical disciplines.

As a result of their schooling students will be able to:

LEARNING STANDARD	STAGE ONE BEGINNING	STAGE TWO BEGINNING INTERMEDIATE
A. Use the target language to reinforce and further knowledge of other disciplines.	**30.A.1a** Recognize the currency of the country(ies) where the target language is spoken and compare values with United States currency.* **30.A.1b** Use the target language to solve simple math exercises (e.g., identify simple geometric shapes, use numbers to count and do math computations). **30.A.1c** Use target language vocabulary to identify simple science terms referring to weather and nature (e.g., clouds, wind, trees, common animals). **30.A.1d** Use target language vocabulary while participating in physical activities (e.g., games, dances).	**30.A.2a** Identify products that are from the countries where the target language is spoken and that are found in the United States economy.* **30.A.2b** Use the target language to make, use and estimate measurements (e.g., time, linear, monetary). **30.A.2c** Use target language vocabulary to identify and describe basic earth science content (e.g., mountain range, coast, desert) and life forms. **30.A.2d** Use the target language to participate in and/or describe games, dances and sports.
B. Use the target language to demonstrate knowledge and understanding of a variety of career options.	**30.B.1a** Use target language vocabulary to identify common professions and occupations. **30.B.1b** Use target language vocabulary to identify a variety of professions in which the target language may be used.	**30.B.2a** Use the target language to describe activities and characteristics of selected occupations and work places. **30.B.2b** Use the target language to explain and describe general career choices in which the target language can be used.

* *More applicable to Modern Languages.*

Note: Examples are designated by "e.g." and enclosed in parentheses. They are meant to guide the teacher as to the general intent of the standards and benchmarks, not to identify all possible items.

WHY THIS GOAL IS IMPORTANT:

Knowledge of a foreign language relies on communication, culture, and context. The term context here applies to the situations in which students will use the target language. To prepare for those situations, students reinforce and further their knowledge of other areas including academic, technical and recreational. Standards and benchmarks within this goal are meant to reamplify content and skills learned in economics, mathematics, science, physical development, health, career exploration and vocational courses. Combined with the cultural contexts found in goal 29, the standards and benchmarks in this goal contain direct parallels in target language development to the Illinois Goals and Standards in the other six learning areas in addition to vocational education.

STAGE THREE INTERMEDIATE	STAGE FOUR ADVANCED INTERMEDIATE	STAGE FIVE ADVANCED
30.A.3a Identify differing systems of trade and exchange in target language country(ies) (e.g., bartering and bargaining) compared to the United States.* **30.A.3b** Use the target language to gather and organize data to solve math problems. **30.A.3c** Use the target language to describe the physical and geological features, vegetation and animal life indigenous to areas where the target language is spoken. **30.A.3d** Use the target language to identify diet, nutrition and physical fitness issues in areas where the target language is spoken.	**30.A.4a** Identify major sources of employment and income in target language country(ies) compared to the United States.* **30.A.4b** Use the target language to analyze and solve math problems based on timetables, schedules, charts and graphs in the target language. **30.A.4c** Use the target language to analyze the impact of human activity on the natural environment in areas where the target language is spoken. **30.A.4d** Use the target language to describe and compare daily diet, nutrition and physical fitness regimens in areas where the target language is spoken.	**30.A.5a** Describe and explain factors affecting economic conditions in target language country(ies) compared to the United States.* **30.A.5b** Use the target language for math skills such as statistical analysis, estimating and approximating in experiments or research projects. **30.A.5c** Use the target language to analyze current science issues (e.g., ecology and the environment, space exploration, health) from the perspective of speakers of the language. **30.A.5d** Use the target language to analyze and contrast diet, nutrition and physical fitness programs in areas where the target language is spoken with those of the United States.
30.B.3a Use the target language to identify and describe occupations unique to areas where the target language is spoken. **30.B.3b** Use the target language to explain in detail the preparation for and activities of specific careers in which the target language can be used.	**30.B.4a** Use the target language to compare various occupations in terms of their roles, status and qualifications in areas where the target language is spoken and in the United States. **30.B.4b** Use the target language to analyze connections between specific businesses and industries in areas where the target language is spoken and in the United States.	**30.B.5a** Use the target language to analyze data relating to job opportunities, preparation, wages/salaries, etc., of occupations in areas where the target language is spoken. **30.B.5b** Use the target language to evaluate a career option which requires proficiency in the target language through a career exploration or education-to-careers activity.

* *More applicable to Modern Languages.*

APPENDIX A

GLOSSARY

The glossary is intended to clarify selected terms and phrases used in the goals, standards and benchmarks which may not be familiar to all readers. Please consult appropriate reference materials for further clarification and definitions of other terms with which you are unfamiliar.

-A-

AB form - A form of dance that uses short compositions with contrasting parts which supplement and enhance each other and are bridged transitionally to create a unified finished product.

ABA form - A form of dance in which two movement themes are presented. Theme B follows the first statement of Theme A. Theme A is repeated after Theme B is stated.

algorithm - Any special method of solving a certain kind of problem.

articulation -The meshing of language components across levels to insure smooth transitions, connections and progress at the higher stages without needless repetition of identical information.

-B-

BCE - Before the Common Era (formerly B.C. was used).

body language - Gestures, postures and proximity to another speaker by which one communicates nonverbally with others in a given culture.

-C-

c. (circa) - Preceding a date, indicates an approximate time (c.1200 means "around" that year, not necessarily that specific year).

CE - Common Era. The period coinciding with the Christian era (formerly A.D. was used).

capacitance - The property of a circuit element that permits it to store charge.

circular function - Function whose equations include cosine *x*, sine *x*, tangent *x*, cotangent *x*, secant *x*, or cosecant *x*.

coefficient - A number being used to multiply a variable or power of a variable in an algebraic expression.

cognate - Word or phrase closely related to a word or phrase in another language.

complex number - The sum of a real and an imaginary number written in the form $a + bi$.

conditional probability - The likelihood that an event will occur based on the assumption that some other event has already occurred.

components of health-related fitness - Endurance, strength, flexibility, cardio-respiratory function and body composition.

conventions - Use of standard written English.

crescendo - A gradual increase, especially in the volume or intensity of sound in a musical passage.

cross-training - Training that emphasizes two or more of the components of health-related fitness.

-E-

elasticity - The condition when the percentage change in quantity demanded is greater than the percentage change in price.

emerging literary forms - Contemporary forms of literature and forms still evolving.

exponential function - A function with a variable in the exponent that is used to model continuous growth or decay.

expository - Factual, objective reporting in written or spoken form; can also be in display form such as blueprints or charts.

-F-

fermata - A music symbol that indicates the prolongation of a tone, chord, or rest beyond its indicated time value.

focus - The clarity with which a paper presents and maintains a clear main idea, point-of-view, theme or unifying event.

foreshadow - To present an indication or suggestion beforehand.

function - A process or rule for determining the numerical value of one variable in terms of another. A function is often represented as a set of number pairs in which the second number is determined by the first, according to the function rule.

-G-

genre - A type or class of literature (e.g., science fiction).

gross domestic product (GDP) - The market value of all goods and services produced during a given period of time within a specific nation.

-H-

hypothesis - A tentative explanation that accounts for a set of facts and can be tested by further investigation.

-I-

idiom - A specialized vocabulary word or expression used by a group of people, jargon (e.g., legal idiom).

indigenous - Originating in, and typical of, a given region, context or environment, including but not necessarily physical.

inflection - The use of word endings and/or varying pitch to reflect different meanings and functions of words.

interpolation - Estimation of a missing functional value by taking a weighted average of known functional values at neighboring points.

intonation - The use of changing pitch to reflect different meanings of phrases and sentences.

inverse variation - When y varies inversely as x and k is the constant of variation, an equation can be written in the form $y = {}^{k}/_{x}$, k is not equal to 0.

irrational numbers - Numbers that cannot be expressed as integers or as a quotient of two integers.

-L-

loan word - A word borrowed directly from one language and used in another with the same meaning (e.g., French 'chateau' and German 'Angst').

locomotor - Moving or capable of moving from one place to another; not stationary.

logarithm - In the equation $a=b^x$, the logarithm base b of a provides the value of the exponent, $\log_b a=x$. The logarithm is the exponent that is put on b to give the value of a.

-M-

mental maps - The visualization of maps, location and topography without the aid of external stimuli.

meter - The number of beats per measure in music.

-N-

nation-state - An autonomous state inhabited by a predominantly homogeneous people.

-O-

oligopoly - A market condition in which sellers are so few that the actions of any one of them will materially affect price and have a measurable impact on competitors.

opportunity cost - The sacrifice of some good or service because of a decision to acquire some other good or service.

orality - In second language classes, the emphasis on listening and speaking as important goals of instruction.

-P-

parametric equations - A pair of equations in which the x and y variables are each written as a function of a third variable, t, called the parameter.

plate tectonics - A theory that the earth's crust consists of a small number of semirigid sections which move.

polynomial - An expression made up of the sum of terms whose variables have only positive whole number powers. The coefficients of these terms may be any type of number (e.g., $a^2 + b^2 = 13$).

primary sources - Original references (e.g., letters, legal documents).

prototype - An original type, form, or instance that serves as a model on which to base or judge later stages.

-R-

rational number - A number that can be expressed in the form $^a/_b$, where a and b are any integers and b is not equal to 0. A rational number may be expressed as a fraction, a terminating decimal, or a repeating decimal.

recursive pattern - Set of statements that specifies one or more initial terms and defines the n^{th} term, u_n, in relation to one or more of the preceding terms.

red-shift - A shift toward the red end of the visible spectrum in the wavelength of light emitted by a celestial object.

ritardando - A musical direction of gradually slowing in tempo; retarding.

-S-

secondary sources - Works that quote original references.

sforzando - A musical direction meaning suddenly and strongly accented.

spatial awareness - The ability to know where one is in an area; know the relationship to people, equipment, etc., occupying the same space.

spectacle - All the visual elements of theatre production (scenery, properties, lighting, costumes, make up, physical movement and dance).

syntactic structure - Grammatical forms combined in a specific way to convey meaning.

-T-

technical works - Sources of information such as scientific, technical, professional works.

technological design - The practice of identifying problems, designing solutions or products, implementing a proposed design, evaluating completed designs or products and communicating the design process.

tessellation - Closed shapes (tiles) arranged on a surface to cover the entire surface without gaps or overlaps.

time arts - Arts that use time as an intrinsic part of their structure (e.g., film, animation, video).

tone color/timbre -The unique character or quality of a sound that distinguishes one instrument, voice or other sound source from another.

transformation images -Two sets or spaces in which every element in the first set corresponds to a unique element in the second set.

-V-

vector - A quantity that has both direction and magnitude.

APPENDIX B

CROSSWALK

The purpose of the crosswalk is to allow quick comparisons between the 1985 State Goals for Learning and the 1997 Illinois Learning Standards. The 1997 goals and learning standards enhance, amplify and clarify the 1985 goals. All of the essential elements from the 1985 state goals have been addressed or embedded in the 1997 Illinois goals and learning standards.

ENGLISH LANGUAGE ARTS

The fundamentals of using language—reading, writing, listening, and speaking, as well as the study of literature—remain highlighted. Goal 5 attempts to move forward from the 1985 goals to address application of the fundamentals toward real-life situations such as research and the use of information. The 1997 goals, while accommodating a variety of teaching and learning styles, acknowledge that language processes develop in a dynamic, fluid manner.

As a result of their schooling, students will be able to:

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Understand how and why language functions and evolves. Read, comprehend, interpret, evaluate and use written material.	**STATE GOAL 1: Read with understanding and fluency.** A. Apply word analysis and vocabulary skills to comprehend selections. B. Apply reading strategies to improve understanding and fluency. C. Comprehend a broad range of reading materials.
Understand the various forms of significant literature representative of different cultures, eras and ideas.	**STATE GOAL 2: Read and understand literature representative of various societies, eras and ideas.** A. Understand how literary elements and techniques are used to convey meaning. B. Read and interpret a variety of literary works.
Write standard English in a grammatical, well-organized and coherent manner for a variety of purposes.	**STATE GOAL 3: Write to communicate for a variety of purposes.** A. Use correct grammar, spelling, punctuation, capitalization and structure. B. Compose well-organized and coherent writing for specific purposes and audiences. C. Communicate ideas in writing to accomplish a variety of purposes.
Listen critically and analytically. Use spoken language effectively in formal and informal situations to communicate ideas and information and to ask and answer questions.	**STATE GOAL 4: Listen and speak effectively in a variety of situations.** A. Listen effectively in formal and informal situations. B. Speak effectively using language appropriate to the situation and audience.
Understand the various forms of significant literature representative of different cultures, eras and ideas.	**STATE GOAL 5: Use the language arts to acquire, assess and communicate information.** A. Locate, organize, and use information from various sources to answer questions, solve problems and communicate ideas. B. Analyze and evaluate information acquired from various sources. C. Apply acquired information, concepts and ideas to communicate in a variety of formats.

MATHEMATICS

In 1985, there were seven state goals for learning in mathematics; the 1997 Illinois Learning Standards present five. The mathematics writing team concluded that understanding and using ratios and percentages are subsets of computation and having a sense of numbers and therefore, included those topics under goal 6. Another 1985 goal stated that students would be able to use mathematics skills to estimate, approximate and predict outcomes and to judge the reasonableness of results. The team concluded that these important abilities should be applied and included across all of the mathematics goals.

As a result of their schooling, students will be able to:

1985 STATE GOALS

Perform the computations of addition, subtraction, multiplication and division using whole numbers, integers, fractions and decimals.

Understand and use ratios and percentages.

Use mathematical skills to estimate, approximate and predict outcomes and to judge reasonableness of results.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.

A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.

B. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.

C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.

D. Solve problems using comparison of quantities, ratios, proportions and percents.

1985 STATE GOALS

Make and use measurements, including those of area and volume.

Use mathematical skills to estimate, approximate and predict outcomes and to judge reasonableness of results.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.

A. Measure and compare quantities using appropriate units, instruments and methods.

B. Estimate measurements and determine acceptable levels of accuracy.

C. Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.

1985 STATE GOALS

Identify, analyze and solve problems using algebraic equations, inequities, functions and their graphs.

Use mathematical skills to estimate, approximate and predict outcomes and to judge reasonableness of results.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 8: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

A. Describe numerical relationships using variables and patterns.

B. Interpret and describe numerical relationships using tables, graphs and symbols.

C. Solve problems using systems of numbers and their properties.

D. Use algebraic concepts and procedures to represent and solve problems.

1985 STATE GOALS

Understand and apply geometric concepts and relations in a variety of forms.

Use mathematical skills to estimate, approximate and predict outcomes and to judge reasonableness of results.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 9: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.

A. Demonstrate and apply geometric concepts involving points, lines, planes and space.

B. Identify, describe, classify and compare relationships using points, lines, planes and solids.

C. Construct convincing arguments and proofs to solve problems.

D. Use trigonometric ratios and circular functions to solve problems.

1985 STATE GOALS

Understand and use methods of data collection and analysis, including tables, charts and comparisons.

Use mathematical skills to estimate, approximate and predict outcomes and to judge reasonableness of results.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 10: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.

A. Organize, describe and make predictions from existing data.

B. Formulate questions, design data collection methods, gather and analyze data and communicate findings.

C. Determine, describe and apply the probabilities of events.

SCIENCE

Goal 11 consolidates two 1985 goals addressing scientific research and methods and unifies the processes with the purposes of the scientific method. By emphasizing inquiry, Goal 11 promotes a deeper understanding of research methods and applications. Goal 12 focuses on unifying concepts and knowledge in the sciences, fostering greater depth of understanding across and beyond the traditional science disciplines. The relationships among science and society can be understood more clearly through the wording of Goal 13. Within the 1997 goals and learning standards, emphasis is equally distributed among process (Goal 11), content (Goal 12) and relationships (Goal 13).

As a result of their schooling, students will be able to:

1985 STATE GOALS

Have a working knowledge of the principles of scientific research and their application in simple research projects.

Have a working knowledge of the processes, techniques, methods, equipment and available technology of science.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 11: Understand the processes of scientific inquiry and technological design□to investigate questions, conduct experiments and solve problems.

A. Know and apply the concepts, principles and processes of scientific inquiry.
B. Know and apply the concepts, principles and processes of technological design.

1985 STATE GOALS

Know the concepts and basic vocabulary of biological, physical and environmental sciences and the application to life and work in contemporary technological society.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.

A. Know and apply concepts that explain how living things function, adapt and change.
B. Know and apply concepts that describe how living things interact with each other and with their environment.
C. Know and apply concepts that describe properties of matter and energy and the interactions between them.
D. Know and apply concepts that describe force and motion and the principles that explain them.
E. Know and apply concepts that describe the features and processes of the Earth and its resources.
F. Know and apply concepts that explain the composition and structure of the universe and Earth's place in it.

1985 STATE GOALS

Have a working knowledge of the social and environmental implications and limitations of technological development.

Know the concepts and basic vocabulary of biological, physical and environmental sciences and the application to life and work in contemporary technological society.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 13: Understand the relationships among science, technology and society in historical and contemporary contexts.

A. Know and apply the accepted practices of science.
B. Know and apply concepts that describe the interaction between science, technology and society.

SOCIAL SCIENCE

The first 1985 goal for social science dealt with both civics and economics. These have been separated and more clearly defined in Goals 14 and 15 and their corresponding standards. This approach will help students better understand the related but separate ideas in these two disciplines. The 1985 goal that addressed application and decision making has been incorporated into the Applications of Learning and the standards and benchmarks under all of the 1997 goals for social science.

As a result of their schooling, students will be able to:

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Understand and analyze comparative political and economic systems, with an emphasis on the political and economic systems of the United States.	**STATE GOAL 14: Understand political systems, with an emphasis on the United States.** A. Understand and explain basic principles of the United States government. B. Understand the structures and functions of the political systems of Illinois, the United States and other nations. C. Understand election processes and responsibilities of citizens. D. Understand the roles and influences of individuals and interest groups in the political systems of Illinois, the United States and other nations. E. Understand United States foreign policy as it relates to other nations and international issues. F. Understand the development of United States political ideas and traditions. **STATE GOAL 15: Understand economic systems, with an emphasis on the United States.** A. Understand how different economic systems operate in the exchange, production, distribution and consumption of goods and services. B. Understand that scarcity necessitates choices by consumers. C. Understand that scarcity necessitates choices by producers. D. Understand trade as an exchange of goods or services. E. Understand the impact of government policies and decisions on production and consumption in the economy.
Understand and analyze events, trends, personalities and movements shaping the history of the world, the United States and Illinois.	**STATE GOAL 16: Understand events, trends, individuals and movements shaping the history of Illinois, the United States and other nations.** A. Apply the skills of historical analysis and interpretation. B. Understand the development of significant political events. C. Understand the development of economic systems. D. Understand Illinois, United States and world social history. E. Understand Illinois, United States and world environmental history.
Demonstrate a knowledge of world geography with emphasis on the United States.	**STATE GOAL 17: Understand world geography and the effects of geography on society, with an emphasis on the United States.** A. Locate, describe and explain places, regions and features on the Earth. B. Analyze and explain characteristics and interactions of the Earth's physical systems. C. Understand relationships between geographic factors and society. D. Understand the historical significance of geography.
Demonstrate knowledge of the basic concepts of the social sciences and how these help interpret human behavior. Apply the skills and knowledge gained in the social sciences to decision making in life situations.	**STATE GOAL 18: Understand social systems, with an emphasis on the United States.** A. Compare characteristics of culture as reflected in language, literature, the arts, traditions and institutions. B. Understand the roles and interactions of individuals and groups in society. C. Understand how social systems form and develop over time.

PHYSICAL DEVELOPMENT AND HEALTH

The 1985 goals for physical development and health varied greatly from the very broad to the very specific. The 1997 goals and learning standards "smooth out" and organize student learning while updating the goals in light of the last decade of education research.

For example, personal fitness plans have been incorporated in the benchmarks in Goal 19.

Overall, the physical development and health goals and learning standards have become more interrelated in the 1997 goals/learning standards structure, with emphasis on promoting physical fitness, health, knowledge of human growth and development and the skills for students to be effective communicators and decision makers to enhance their own health and well-being.

As a result of their schooling, students will be able to:

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Demonstrate basic skills and physical fitness necessary to participate in a variety of conditioning exercises or leisure activities such as sports and dance. Plan a personal physical fitness and health program. Perform a variety of complex motor activities.	**STATE GOAL 19: Acquire movement skills and understand concepts needed to engage in health-enhancing physical activity.** A. Demonstrate physical competency in individual and team sports, creative movement and leisure and work-related activities. B. Analyze various movement concepts and applications. C. Demonstrate knowledge of rules, safety and strategies during physical activity.

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Plan a personal physical fitness and health program. Perform a variety of complex motor activities.	**STATE GOAL 20: Achieve and maintain a health-enhancing level of physical fitness based upon continual self-assessment.** A. Know and apply the principles and components of health-related fitness. B. Assess individual fitness levels. C. Set goals based on fitness data and develop, implement and monitor an individual fitness improvement plan. **STATE GOAL 21: Develop team-building skills by working with others through physical activity.** A. Demonstrate individual responsibility during group physical activities. B. Demonstrate cooperative skills during structured group physical activity.

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Demonstrate a variety of basic life-saving activities. Understand principles of nutrition, exercise, efficient management of emotional stress, positive self-concept development, drug use and abuse, and the prevention and treatment of illness.	**STATE GOAL 22: Understand principles of health promotion and the prevention and treatment of illness and injury.** A. Explain the basic principles of health promotion, illness prevention and safety. B. Describe and explain the factors that influence health among individuals, groups and communities. C. Explain how the environment can affect health.

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Understand the physical development, structure and functions of the human body.	**STATE GOAL 23. Understand human body systems and factors that influence growth and development.** A. Describe and explain the structure and functions of the human body systems and how they interrelate. B. Explain the effects of health-related actions on the body systems. C. Describe factors that affect growth and development.

1985 STATE GOALS

Understand consumer health and safety, including environmental health.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 24: Promote and enhance health and well-being through the use of effective communication and decision-making skills.

A. Demonstrate procedures for communicating in positive ways, resolving differences and preventing conflict.
B. Apply decision-making skills related to the protection and promotion of individual health.
C. Demonstrate skills essential to enhancing health and avoiding dangerous situations.

FINE ARTS

The 1997 goals and learning standards simplify and clarify the language of the 1985 State Goals, with attention to relationships within the arts and to other disciplines. The addition of the standards for each goal will allow students and teachers to better organize and plan arts studies.

The 1997 goals and learning standards are intended to address the larger issues of how the arts allow expression, convey meaning and reflect society and culture, rather than direct attention to smaller pieces of information such as identification of individual art works.

As a result of their schooling, students will be able to:

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Understand the principal sensory, formal, technical and expressive qualities of each of the arts.	**STATE GOAL 25: Know the language of the arts.** A. Understand the sensory elements, organizational principles and expressive qualities of the arts. B. Understand the similarities, distinctions and connections in and among the arts.

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Identify processes and tools required to produce visual art, music, drama and dance. Demonstrate the basic skills necessary to participate in the creation and/or performance of one of the arts. Describe the unique characteristics of each of the arts.	**STATE GOAL 26: Through creating and performing, understand how works of art are produced.** A. Understand processes, traditional tools and modern technologies used in the arts. B. Apply skills and knowledge necessary to create and perform in one or more of the arts.

1985 STATE GOALS	1997 STATE GOALS & ILLINOIS LEARNING STANDARDS
Identify significant works in the arts from major historical periods and how they reflect societies, cultures and civilizations, past and present. Describe the unique characteristics of each of the arts.	**STATE GOAL 27: Understand the role of the arts in civilizations, past and present.** A. Analyze how the arts function in history, society and everyday life. B. Understand how the arts shape and reflect history, society and everyday life.

FOREIGN LANGUAGES

Although foreign languages were not included in the 1985 State Goals for Learning, languages are being taught and learned in many Illinois schools. The 1997 goals and learning standards focus on the study of the target language to communicate within and beyond the classroom; to understand the customs, arts, literature, history and geography of the target language; and to make connections and reinforce knowledge and skills across academic, vocational and technical disciplines.

As a result of their schooling, students will be able to:

1985 STATE GOALS

There were no goals in 1985 for Foreign Languages.

1997 STATE GOALS & ILLINOIS LEARNING STANDARDS

STATE GOAL 28: Use the target language to communicate within and beyond the classroom setting.

A. Understand oral communication in the target language.
B. Interact in the target language in various settings.
C. Understand written passages in the target language.
D. Use the target language to present information, concepts and ideas for a variety of purposes to different audiences.

STATE GOAL 29: Use the target language to develop an understanding of the customs, arts, literature, history and geography associated with the target language.

A. Understand manners and customs of various target language societies.
B. Understand music, dance, folk art, visual art, drama and architecture related to the target language societies.
C. Understand literature and various media of target language societies.
D. Understand history of areas where the target language is spoken.
E. Understand geography of various target language societies.

STATE GOAL 30: Use the target language to make connections and reinforce knowledge and skills across academic, vocational and technical disciplines.

A. Use the target language to reinforce and further knowledge of other disciplines.
B. Use the target language to demonstrate knowledge and understanding of a variety of career options.

APPENDIX C

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